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ECONOMIC and POPULATION STUDY

BILLINGS MONTANA


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Mr. Thomas R. Hawkins, Director
Billings-Yellowstone County Planning Board
County Court House
Billings, Montana

Dear Mr. Hawkins:

Submitted herewith is the Economic and Population Study for the Billings Urban Area. The data contained herein represents, in many cases, an entirely new set of findings over what had been presented in earlier drafts. We have invested three times the original estimate of work in bringing this study to a successful close. The assistance and counsel given by you and your staff has been a major factor in the development of a document that should be of long term usefulness to the Billings Urban Area.

The population and economic data contained herein represents an appraisal of the future of Billings. The display of population projections by five-year increment lends itself well to periodic updating. The projections of employment and population should serve as guide lines for current plan making; however, review of these estimates in the face of actual counts is necessary to adjust the projections to the actual situation. In view of the resources being extended to produce such studies and plan making, the additional expense in keeping these data current is small.

Mr. David N. Otani contributed to significant portions of this report.

Sincerely yours,

HARSTAD ASSOCIATES, INC.


George A. Smith
Director of Planning

GAS:clr

Enclosure

ECONOMIC and POPULATION STUDY
for
Billings, Montana

MARCH, 1967

PREPARED FOR THE BILLINGS CITY - COUNTY PLANNING BOARD IN
COOPERATION WITH THE MONTANA STATE HIGHWAY COMMISSION AND
THE U. S. DEPARTMENT OF COMMERCE, BUREAU OF PUBLIC ROADS

PART I

ECONOMIC INVENTORY

INTRODUCTION

Within the past twenty-five years, Billings has experienced very rapid growth. Several studies have probed the reasons behind the continued expansion of the City and arrived at thoughtful and somewhat similar conclusions. Although the growth or change which is likely to occur in the future is uncertain, all of the studies have suggested the continuation of economic growth and expansion. To derive a more accurate basis for our projections, the major contributing factors accounting for Billings' growth were investigated. The purpose of this study is to forecast and allocate the population expected within the Billings planning area for the planning period, 1985.

Few cities anywhere have such an advantageous inland location as Billings. Its situation in an area richly endowed with natural resources has established the City as the economic center of the State. Some of the basic factors that account for this are:

1. A central location well served by interstate and local transportation facilities.
2. A natural location for processing and distributing the mineral fuels produced in surrounding area.
3. A productive and stable agricultural hinterland.

4. The development of a city that functions in an extremely concrete and fundamental way--and, as a result, is responsive to a much larger population base than its own.

In order to appraise the City, its response and function will be related to the areas it serves. It is especially important to define and analyze these areas since they provide the economic foundation on which the City exists.

TRADE AREAS

The Billings' economy appears to function within two areas of differing size. The larger, a 19-county grouping in both Montana and Wyoming, constitutes the wholesale trade area sometimes referred to as the secondary trade area. The smaller area is comprised of seven counties, most directly dependent on Billings for commodities, and is called the primary, or retail, trade area. Figure 1 illustrates the two trade areas and their interrelationship. These two trade areas generally agree with determinations made in other studies, the principal differences being the number of outlying counties included.¹

The Secondary (Wholesale) Area

This region generally defines the extent of the Billings influence. It is also the area that produces most of the raw materials that contribute to the manufacturing base of the City. These products from the wholesale area are primarily agricultural raw materials and mineral fuels.

Although there is some processing and refining of these raw materials in the City, many of the goods produced in the secondary area are for shipment to

¹ Development Planning Associates, Billings, Its Prospects for Economic Growth, October, 1963 pp. 10-14, and Table 7.

Upper Midwest Economic Study, Trade Centers and Trade Areas of the Upper Midwest, Urban Report No. 111, September, 1963. pp. 7 and 30.

U. S. Department of Commerce, Bureau of the Census, U. S. Census of Population 1960 State Economic Areas, PC (3)1A, pp. 463

BILLINGS TRADE AREA

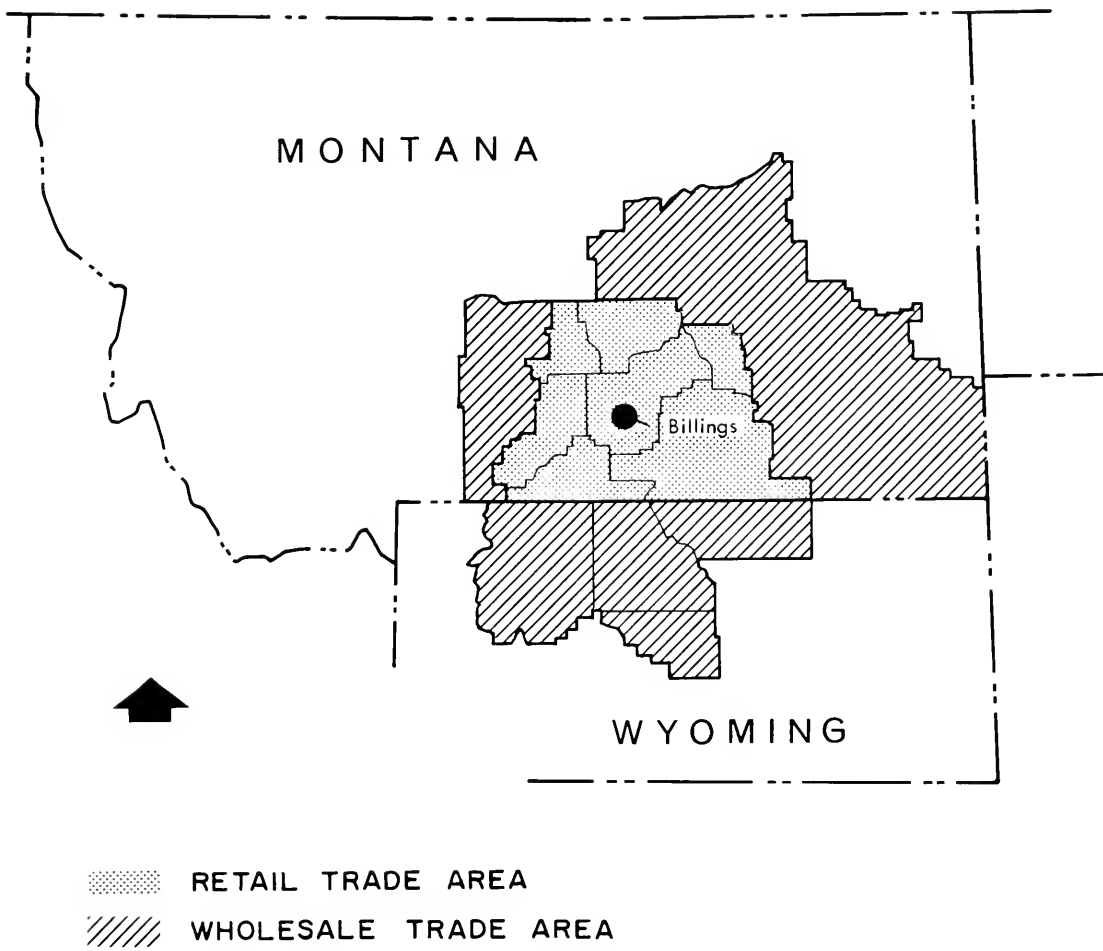


Figure 1

national markets in their natural state; particularly cattle and cash grain crops. In exchange for these products of the region, Billings distributes consumer goods and serves as a wholesale outlet for retail centers and smaller wholesalers throughout the area.

This interchange of commodities is economically compatible and complementary to both the City and trading area--for each is primarily dependent on the other and does not look to some distant, outside source for basic exchange monies. It is this exchange that is responsible for the wholesale industry--one that has special significance to the Billings' economy due primarily to a central place location in a raw material producing area. This is a sound situation

In measuring the secondary trade area of Billings, the State was used to set some comparative standards. It was felt that Montana, and Billings, show comparable economic patterns due to:

- An industrial base supported primarily by agriculture and supplemented by minerals.

- Low population densities.

- An isolated, inland location.

- A hinterland population base that is primarily rural.

- Heavy dependence on transportation facilities for the collection and distribution of goods.

- Little manufacturing of durable goods.

Wholesale Trade Area Determination

In 1963, the Billings Standard Metropolitan Statistical Area, (SMSA) which is coterminous with Yellowstone County, contained approximately 12 per cent of the State's population. Yet this 12 per cent generated one-fourth of the State-wide total of merchant wholesale establishments and nearly one-third of the State's wholesale sales receipts. Because Billings exerts this influence on total State wholesale activity, State-wide averages can be used as one measure of the secondary trade area.

In comparing total population estimates to wholesale employment, it was found that the State ratio could be expressed as 85:1; that is, each wholesale industry employee served approximately 85 people. Applying this ratio to the 2,289 Yellowstone County 1963 wholesale industry employees indicates a service or trade area containing approximately 193,000 persons.

Again utilizing wholesale industry employment, a comparison of employment with total retail expenditures revealed the 1963 Montana average retail expenditure generated per wholesale industry employee was \$115,000. Application of this average to the 2,289 Yellowstone County wholesale industry employees indicated an anticipated gross retail expenditure of approximately \$263,235,000. Based on the determined 1963 Montana average per-capita retail expenditure of \$1,479, the Billings wholesale trade area, by this measure, would encompass nearly 178,000 persons.

The determination of the wholesale trade area involved surveying the counties surrounding Yellowstone County from which a total of 19 were selected. The population total of this 19-county area was estimated at 206,200. The factors guiding the selection of these counties were:

1. Total estimated population at upper range of ratio indicators
2. Approximately equal driving time radius
3. Daily truck service from Billings
4. The 1963 circulation pattern of the Billings Gazette
5. Transportation routes
6. Previous studies

On the basis of data analyzed, 90 to 95 per cent of the population of the following counties are served by the Yellowstone County wholesale industry, Table 1.

TABLE 2
Retail Sales and Population Service Totals
Yellowstone County - 1963

<u>Retail Category</u>	<u>1963 Sales</u>	<u>Montana Average Per Capita Expenditures</u>	<u>Population Served</u>
Food	\$ 27,640,000	\$ 298	92,752
Eating-Drinking Places	11,575,000	126	91,865
General Merchandise	14,175,000	124	114,315
Apparel	8,006,000	68	117,735
Furniture Sales	5,848,000	48	121,833
Auto Sales	31,094,000	280	111,050
Gasoline	9,809,000	119	82,429
Lumber and Farm Equipment	10,125,000	153	66,176
Drugs	4,834,000	44	109,864
Other Retail	8,732,000	89	98,112
Non-Store Retailers	1,776,000	1,550	86,203
Total	\$133,614,000		

Source: 1963 Census of Business, Retail Trade.

As is apparent from Table 2, five of eleven retail categories had population service bases of approximately 110,000 to as high as 122,000 and eight of the eleven were over 90,000.

One additional index, that of selected services sales, was used to further verify the approximate population base of the Billings retail trade area. The selected services have been growing in their share of total business activity. Many of the listed services could be found in any small town. Their presence in large numbers in Yellowstone County would only be justified by a large service population. In 1958, Yellowstone County accounted for 17.8 per cent of Montana's selected services sales doing \$14,561,000 in business. In 1963, per-capita selected services sales for Montana were \$115, while in Yellowstone County the

per-capita average was \$169. Utilizing the State per-capita figure against Yellowstone County sales indicates a service population base of approximately 126,600. The individual categories comprising the enumerated selected services are shown in Table 3 together with the calculated population service base for each. In every category except motion pictures, Yellowstone County with 12 per cent of the 1963 Montana estimated population generated more selected services sales than its population would warrant. It must be noted that for Hotels and Motels the 84,800 service population would be that in addition to the estimated 86,000 local residents; the local population generating little receipts.

TABLE 3
Montana-Yellowstone County
Selected Services Sales - 1963

<u>Categories</u>	<u>Montana</u>	<u>Yellowstone County</u>	<u>Per Cent of State</u>	<u>State Per-Capita Expenditure</u>	<u>Service Population</u>
Hotels and Motels	\$ 28,267,000	\$ 3,392,000	12.0	\$40	84,800
Personal Services	23,954,000	3,892,000	16.2	\$34	114,500
Business Services	11,766,000	4,385,000	37.3	\$17	257,900
Auto Services	16,730,000	2,786,000	16.6	\$24	116,000
Miscellaneous Repairs	7,521,000	1,369,000	18.2	\$11	124,500
Motion Pictures	4,597,000	593,000	12.9	\$ 6	98,800
Recreation	7,523,000	1,302,000	17.3	\$11	118,400
Total	\$100,358,000	\$17,719,000	17.6	\$14	126,600

Source: U. S. Census of Business, Selected Services, 1963.

From the Retail Trade sector, four categories: General Merchandise, Apparel, Furniture, and Auto Sales, are strong indicators of retail strength. From these four, it would appear that a primary trade area of approximately 116,000 persons is indicated. From the Selected Services sector, four categories: Personal Services, Auto Services, Miscellaneous Repairs, and Recreation, are judged most indicative of the drawing power of Yellowstone County. The average Service population of these categories in 1963 was approximately 118,000.

A survey of estimated 1963 county populations showed a group of seven counties around and including Yellowstone County with prima facie qualifications as the primary trade area; i.e., a combined population of 116,900. These counties and their estimated 1963 population are:

Yellowstone	86,000
Big Horn	10,400
Carbon	7,900
Stillwater	5,400
Golden Valley	1,100
Musselshell	4,800
Treasure	<u>1,300</u>
Total	116,900

To verify this preliminary determination, three different checks of foreign patronage in Yellowstone County were conducted: a license plate survey, a review of newspaper circulation tabulations, and a shopper questionnaire.

An auto license plate tally was conducted in December of 1964. Over the five days covered by the survey, a total of 3,832 vehicles were tabulated. Of the total non-Yellowstone County vehicles surveyed, the six contiguous counties surrounding Yellowstone County accounted for approximately 26 per cent, the balance in random distribution among 77 other units: 15 Montana counties, 8 Wyoming counties, and 19 other states and provinces.

The 1963 and 1964 circulation analysis of the Billings Gazette showed that in the six contiguous counties around Yellowstone County, the Billings Gazette subscribership ratio was no lower than 52 per cent of total occupied dwellings in 1963. By 1964 this ratio had risen to 55 per cent. Beyond the six county ring the subscribership ratio descends rapidly in loose proportion to approximate distance from Yellowstone County.

In the fall of 1966, a shopper survey was conducted in downtown Billings and at outlying shopping centers. Each respondent was asked six brief questions to determine his residence and other factors. From approximately 1,000 recordings in the two-and-one-half hour sample period, the six counties surrounding Yellowstone County accounted for 38 per cent of the foreign respondents. Approximately 27 per cent of the foreign respondents were from out of state. The balance, 34 per cent, were ratherly evenly distributed among 17 other counties, forming a crescent of descending frequency around the six-county core. An attempt at further verification of the retail trade area, particularly by use of charge account records, was not feasible because of unavailability of data in usable format.

On the basis of the above verification, it is estimated that the Billings-Yellowstone County retail trade area consists of the seven counties selected:

Yellowstone
Big Horn
Carbon
Stillwater
Golden Valley
Musselshell
Treasure

Internal Trade Patterns

The internal trade patterns of Billings were measured in both the vehicle license survey and the shopper questionnaire taken as a part of the trade

area determinations. In the shopper survey 15 sample stations were selected to achieve as broad a response cross-section as possible. The Billings Central Business District had 12 stations and the two outlying shopping centers had three. Expansion of the survey tabulations revealed several interesting generalizations.

1. The proportion of non-Yellowstone County visitors to local residents did not vary appreciably between downtown Billings and the outlying shopping centers. This would indicate that the centers are no more attractive to outsiders than they are to Yellowstone County residents.
2. Of those respondents in the Central Business District, approximately 30 per cent indicated they visited downtown Billings once or twice a week and about 19 per cent estimated their CBD trip frequency at one to three times monthly. At the shopping center, 50 per cent of those interviewed made their trips once or twice a week and 13 per cent one to three times monthly. Daily trips accounted for 42 per cent in the CBD and 25 per cent at the centers.
3. The sample indicated over a 2:1 relationship of shopping trips to work trips, due in part to the time of the sample. Approximately 91 per cent of the work-purpose responses were in the CBD. Shopping trips accounted for 57 per cent in the CBD and 81 per cent at the centers. Other purpose trips, such as doctor visits, bill paying and services accounted for about 16 per cent of CBD trips and only 7 per cent at the centers. These data would bear out the generalization that trips to shopping centers are usually single purpose while trips to the Central Business District often are to accomplish several purposes.

4. Preference of shopping area fell strictly with interview area. In the CBD, approximately 80 per cent indicated a preference for the CBD. At the shopping centers about 82 per cent preferred shopping there. Interestingly, the smaller shopping center received a higher degree of preference than did its counterpart.
5. The license plate survey conducted in December, 1964, indicated that about 37 per cent of the total primary trade area vehicles surveyed, and 39 per cent of the Yellowstone County vehicles surveyed, were found at the shopping centers. In the shopper interview, conducted almost two years later, approximately 32 per cent of the total respondents indicated a preference for the shopping centers. Considering the differences in sampling methodology, the similarity of proportions is striking. It would seem from these two surveys that downtown Billings as a shopper area is preferred by two-thirds of the shoppers. These ratios further indicate at least a temporary balance in this ratio between the competing shopping centers over the last two years.
6. Two questions, designed to ascertain approximate spending habits, were discarded. Hardly five per cent of the respondents had the vaguest notion of the amount they spent weekly on consumable purchases of all kinds. Most agreed, however, that food was the item most often purchased.

PHYSICAL GEOGRAPHY

The economic stability and potential growth of Billings is dependent to a large degree on the geographic influence of the trade area. Billings functions in response to the agricultural region surrounding it by handling its products and supplying it with consumer goods. As a result, the ability of the trade area to produce and consume is a primary factor in the analysis of Billings' future growth.

Topography

The topographic influence of the Billings Trade Area lends itself to an agricultural base. The drainage pattern is simple, formed by the Yellowstone, which bisects the trade area, and the smaller Missouri tributaries which drain the northern portion. These east and north flowing rivers form the basis for a considerable amount of irrigated cropland and have left the land between relatively undissected and suitable for dryland farming. Although ridges of the Rocky Mountain range, such as the Little Belt, "Big Snowy", and Judith Mountains, extend as far east as Lewiston, much of the area is rolling and between 2,000 to 3,000 feet in elevation, well suited for pasture and dryland farming of a limited nature. Much of the area is found to be especially suitable for cattle raising.

Rivers have influenced transportation routes also, dictating the course of the Northern Pacific along the Yellowstone and the Great Northern along the Missouri. Highways also generally follow these routes and, as a natural result, the cities have sprung up along the rivers.

It becomes evident that the population of the trade area is river-oriented. This is attributed primarily to the opportunity for irrigation and transportation of commodities. Because of the size of the trade area, and an agricultural base with few inhabitants, the continued population and economic growth will be influenced by the regional topography.

Climate

The trade area has a rather homogenous climate. Since all of the area lies east of the Rocky Mountains, the climate characteristics are associated with the continental influence of the interior mid-western states. Winters are cold, but generally not for a long continuous period, and are often alleviated by mild but windy weather in the form of a chinook wind. A chinook belt runs from the Brown ng-Shelby area southeastward to the Yellowstone Valley above Billings. Winter minimum temperatures average about 20° F. and summer highs are in the neighborhood of 70° F

Annual precipitation is in the neighborhood of 13 to 14 inches. Generally, nearly half of the annual long-term average total precipitation falls in the three months of May through July. The accompanying climagraphs display the weather characteristics of this area by two example stations of Miles City and Billings, Figure 2. Frost-free seasons are not especially long, as shown in Table 4.

TABLE 4
Frost-Free Seasons of Selected Stations
Within the Trade Area

<u>Station</u>	<u>Mean Date of</u> <u>Last Spring Occurrence</u>		<u>Mean Date of</u> <u>First Fall Occurrence</u>		<u>Number of Days</u> <u>Between</u>	<u>Years of</u> <u>Record</u>
	<u>Month</u>	<u>Year</u>	<u>Month</u>	<u>Year</u>		
Billings	5	- 15	9	- 24	132	30
Livingstone	5	- 26	9	- 18	116	30
Roundup	5	- 16	9	- 22	129	23
Red Lodge	6	- 05	9	- 17	104	30
Big Timber	5	- 20	9	- 21	123	30
Crow Agency	5	- 17	9	- 19	125	30
Lewiston	5	- 26	9	- 18	116	30
Miles City	5	- 05	10	- 03	150	30

With low amounts of precipitation, the area has adjusted to a dryland farming economy except where irrigation waters are available. Under these conditions, hardy grains of wheat, barley, rye and oats are suitable, and the relatively

mild winters provide an excellent environment for cattle. In the irrigated areas, the quick maturing sugar beet is grown. Although large numbers of cattle are raised, the limitation placed on the growth of feed finishing crops, such as corn, by climatic conditions result in many cattle being shipped out of the state for fattening.

Soils

Soils within the grade area are naturally fertile and productive. They are representative of those found throughout the semi-arid plains region of the United States. They are broadly grouped into the Chernozem and Chestnut classifications. These soils characteristically have dark surface layers which indicate a good supply of organic matter and a lime bedrock origin. Due to low topographic relief, soils have been relatively stable and have had a chance to develop. The accumulation of natural grass, which covered most of the plains before they were cultivated, has created considerable organic content and, as a result, they are quite productive--with proper amounts of rainfall or irrigation water.

There are also rather extensive areas of alluvial soils along the Missouri, Yellowstone, and tributary rivers that form the basis for most of the productive irrigated cropland.

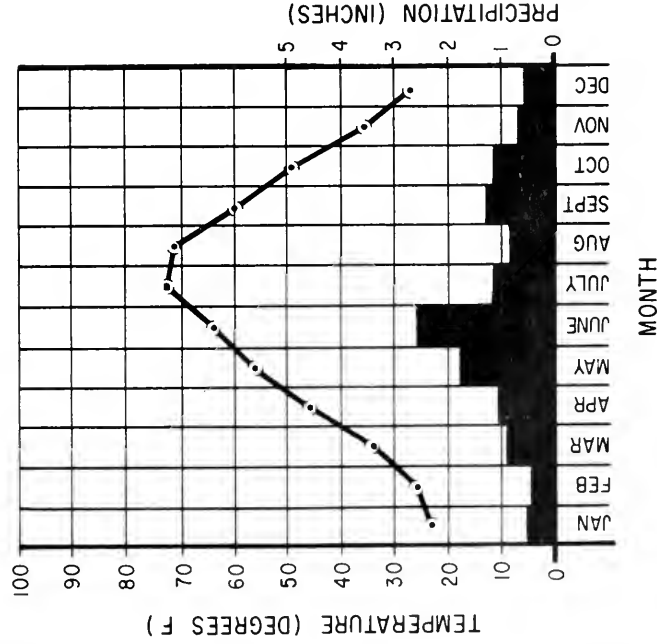
The combination of soils, topography and climate are perhaps the most influential factors in the trade area's regional economy. The impact of these factors largely accounts for the population pattern that has evolved, and places the major restrictions on future growth.

Vegetation

The natural vegetation of the trade area has provided excellent conditions for cattle raising. Much of Montana, east of the Rocky Mountains, was endowed with a luxuriant cover of range grasses. Gamma grass types make up most of the vegetation in central Montana and provide it with an excellent base for the cattle industry.

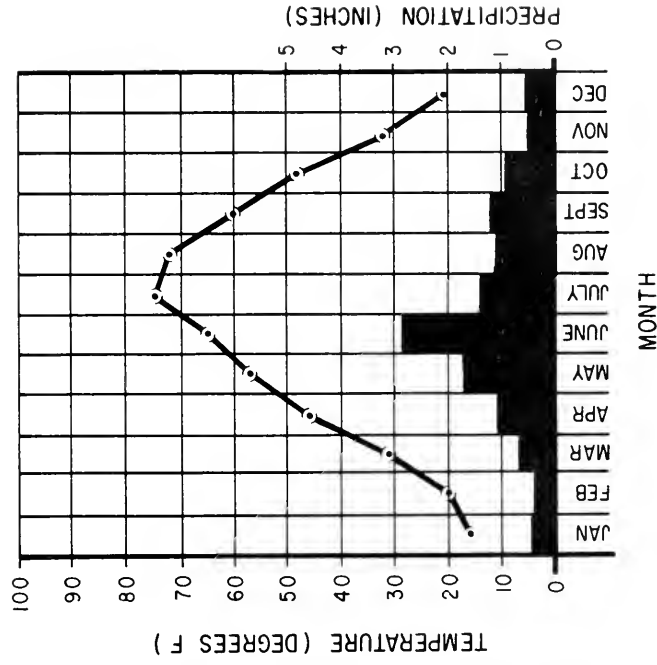
Billings

AVERAGE TEMPERATURE 47.2°
AVERAGE PRECIPITATION 13.10"



Miles City

AVERAGE TEMPERATURE 45.4°
AVERAGE PRECIPITATION 12.81"



TEMPERATURE
PRECIPITATION

Figure 2

Minerals

Minerals play an important role in the economy of Billings. Although Yellowstone County is not an important producing area, it is near some petroleum fields. As a result, Billings serves these fields as a refining and distributing center.

Petroleum, natural gas and coal are the primary mineral resources of the trade area. Although coal is available in large quantities, particularly in Musselshell County, much of it is low grade and very little mining takes place. At one time, coal mining was an active industry in the Roundup area, but conversion by the railroads from coal to diesel fuel sharply curtailed operations. Large reserves are also available at the Colstrip field and are a potential source of fuel for the generation of steam power. Table 5 shows the mineral production for the 19-county trade area.

TABLE 5
Total Mineral Production for Counties within
the Wholesale Trade Area - 1961-1964

County	State	Value of Production (000's)			
		1961	1962	1963	1964
Yellowstone	Montana	1,474	1,519	3,288	2,899
Big Horn	Montana	373	460	875	1,943
Carbon	Montana	7,409	9,845	8,932	9,563
Stillwater	Montana	N.D.	N.D.	139	N.D.
Carter	Montana	52	37	1,399	1,695
Custer	Montana	128	144	508	265
Garfield	Montana	N.D.	N.D.	N.D.	N.D.
Golden Valley	Montana	N.D.	N.D.	N.D.	22
Musselshell	Montana	4,557	4,110	3,322	3,086
Petroleum	Montana	N.D.	N.D.	N.D.	N.D.
Powder River	Montana			97	17
Rosebud	Montana	6,142	5,886	4,352	3,279
Sweet Grass	Montana	N.D.	N.D.	69	0
Treasure	Montana	N.D.	N.D.	425	39
Wheatland	Montana	N.D.	N.D.	157	352
Park	Wyoming	88,328	96,027	90,589	81,068
Big Horn	Wyoming	31,490	31,742	30,473	28,849
Sheridan	Wyoming	3,388	3,211	3,076	2,898
Washakie	Wyoming	10,042	9,220	8,846	8,537

Source: Bureau of Mines, Minerals Yearbook.

Transportation

Billings is well served by transportation forms. Three railroads are available to shippers: Northern Pacific; Chicago, Burlington and Quincy; and the Great Northern. Recent estimates place the number of cars originating or terminating in Billings at more than 18,000 annually. In 1965, there were 12,472 cars forwarded from Billings via the three railroads, the principal commodities carried being grain and grain products; livestock, meat and packing house products; petroleum products and sugar. The Billings Chamber of Commerce reports over 200 various carriers operating in, through, and out of Billings.² Their enumerations are summarized below:

- 39 regulated motor carriers
- 139 private and exempt carriers
- 3 large railroads
- 3 scheduled airlines
- 8 charter air services
- 3 interstate buslines
- 5 intrastate buslines
- 11 household goods movers

Common Carrier freight service is available from Billings on a scheduled basis with overnight delivery in Montana and Wyoming within a 350-mile radius. Second morning deliveries are made in areas up to 700 miles distant from Billings.

Air transportation is available through eight charter services and three scheduled lines: Northwest, Western and Frontier. Passenger loadings continue to increase. The 1961 passenger loadings totaled 49,626. By 1965 this figure had increased to 86,363. In 1966 despite the airline strike, airport officials estimate 94,000 enplaned passengers, a figure that had been estimated for 1970.

Business and personal flying have shown recent increases of large proportion. In 1964 there were recorded 89,242 take-offs and landings, 16.6 per cent of which was scheduled commercial traffic. One year later, total movements had

²Billings Chamber of Commerce, Billings Wholesale Directory, 1963-64. Wholesale Development Committee, pp. IX, and Mr. Edward A. Barrett, General Manager, Billings Traffic Bureau.

risen to 97,233; scheduled air carrier movements, being unchanged from 1964, declined to 15.2 per cent. Estimates for 1966 indicate approximately 120,000 movements, with scheduled traffic accounting for 12.4 per cent. The dramatic increase in business and personal flying is evident.

Highway access to and from Billings is provided by two Montana highways and three federal highways. Table 6 lists the present highways and their first connection from Billings.

TABLE 6
State and Federal Highways - 1963

<u>Designation</u>	<u>No. of Lanes</u>	<u>Surface</u>	<u>Connection</u>
Montana 3	2	Bituminous	Lavina
Interstate 90	4-divided	Bituminous	Laurel
Federal 87	2	Bituminous	Roundup
Federal 10-312	2	Bituminous	Forsythe
Federal 212	2	Bituminous	Harden

With the completion of Interstates 90 and 94, Billings will have both north-south and east-west access via the interstate system, an important asset to reinforcement and enlargement of the truck-served wholesale trade area.

Summary

The physical environment of the Billings Trade Area places some limitations on the economic opportunities available. The existing conditions of climate result in land productivity that supports relatively few people over a large area--except where irrigation is practiced. Thus, a situation exists in which there are four basic economic activities as a direct pattern of resources; dryland agriculture, irrigated agriculture, cattle production and resource production. The trend and future of these industries will be examined as a basis for economic projections.

EMPLOYMENT AND THE LABOR FORCE

Many of the employment opportunities within the trade area are concentrated in Yellowstone County. This is especially true in the skilled and white collar occupations. White collar occupations include professional, managerial, clerical and sales persons. As might be expected, there is a lower proportion of females in the labor force in the trade area than for the Billings urban area, a U. S. Census-defined area slightly larger than the Billings City Limits. The trade area's leading employer is the agricultural industry--although it dropped significantly between 1950 and 1960. Agriculture, per se, is of minor importance in the Billings urban area. Here, the retail industry is the largest single employer.

The trade area employment pattern indicates its agrarian economy. Although overall agricultural employment has decreased, there is little to indicate a changing economy outside of Billings and Yellowstone County. The decline in population in the agricultural areas is generally attributed to a declining employment. Billings, however, is gradually building its manufacturing base and adding industrial employment while the significance of agriculture, as an employer, decreases. Table 7 shows the percentage of labor force by a broad occupational grouping for successively smaller areas.

TABLE 7
Labor Force by Occupational Grouping - 1960
Per Cent

	<u>State</u>	<u>Wholesale Trade Area</u>	<u>Yellowstone County</u>	<u>Billings Urban Area</u>	<u>City of Billings</u>
White Collar	39.5	30.0	49.4	54.7	57.3
Skilled	10.1	3.5	11.4	11.7	11.6
Unskilled	50.4	66.5	39.2	33.6	31.1

Source: U. S. Census, 1960.

Tables 8 and 9 show the employees of Yellowstone County, Billings Urban Area and the City of Billings broken down by type of industry while Table 10 shows the breakdown of the labor force by male and female for the same units of area as well as the State and the wholesale trade area.

Utilizing employment data published by the U. S. Census, a brief history of employment for each industry type was developed.

Agriculture

Agricultural employees declined 4.5 per cent in Yellowstone County between 1950 and 1960. This is a reflection of farm consolidation and increasing farm unit size. Although this declining trend should continue, it is reasonable to assume that agricultural employment will level off at approximately three per cent of the total employment within the County.

Mining

Mining employment is primarily concentrated in exploration and field production of petroleum and natural gas. Expansion in exploration and production activities accounts for the relatively large increase between 1950 and 1960 in the Yellowstone County and Billings employment rates. Prior to the development of the Wolf Springs field, most of the local mining employment in Yellowstone County was limited to the sand and gravel industry.

The additional employment in petroleum mining in the trade area, however, has not compensated for the curtailment of the industry. Industrial production has been nearly eliminated, and only a few small mines remain scattered throughout the area, serving domestic needs. Industrial use of the vast coal reserves could increase employment within the next 20 to 25 years if extraction and transportation costs become competitive.

TABLE 8
Employees by Type of Industry - 1950

	Yellowstone County Employees	County % Total	Billings Urban Area Employees	Urban Area % Total	City of Billings Employees	City of Billings % Total
Agricultural	2,373	11.0	230	1.6	201	1.5
Mining	78	0.4	55	0.4	48	0.4
Manufacturing	2,026	9.5	1,518	10.3	1,333	10.2
Construction	1,866	8.7	1,326	9.0	1,156	8.8
Transportation, Utilities and Communications	2,633	12.3	1,514	10.3	1,329	10.2
Wholesale	1,576	7.4	1,350	9.1	1,180	9.0
Retail	4,483	21.0	3,608	24.4	3,193	24.4
Services	3,046	14.2	2,460	16.7	2,220	17.0
Public Services	2,960	13.8	2,471	16.7	2,231	17.0
Other	361	1.7	229	1.5	200	1.5
Total	21,402	100.0	14,767	100.0	13,097	100.0

Source: U. S. Census, 1950.

TABLE 9
Employees by Type of Industry - 1960

	Yellowstone County Employees	County % Total	Billings Urban Area Employees	% Total	City of Billings Employees	% Total
Agriculture	1,928	6.5	352	1.5	307	1.5
Mining	404	1.4	388	1.7	364	1.8
Manufacturing	3,360	11.4	2,699	11.7	2,360	11.6
Construction	1,985	6.7	1,596	6.9	1,311	6.5
Transportation, Utilities and Communications	3,265	11.1	2,153	9.4	1,866	9.2
Wholesale	2,060	7.0	1,799	7.8	1,569	7.7
Retail	5,706	19.4	4,819	20.9	4,232	20.9
Services	5,455	18.5	4,204	20.4	4,249	21.0
Public Services	4,492	15.2	3,806	16.6	3,452	17.0
Other	815	2.8	702	3.1	567	2.8
Total	29,470	100.0	23,018	100.0	20,277	100.0

Source: U S Census, 1960

TABLE 10
Labor Force, Employed and Unemployed, By Sex

	MALE		FEMALE		TOTAL	
	Labor Force	Employed	Labor Force	Employed	Labor Force	Employed
		Unemployed		Unemployed		Unemployed
			1 9 5 0			
State	179,285	169,835	9,450	2,233	230,143	11,683
County	16,733	15,758	975	232	22,609	1,207
City of Billings	9,633	8,989	644	145	13,886	789
Wholesale Trade Area	54,681	51,867	2,656	792	70,119	3,448
			1 9 6 0			
State	174,718	163,207	11,511	5,292	248,073	16,803
County	21,041	19,815	1,226	818	31,514	2,044
Billings Urban Area	16,116	15,112	1,008	690	24,716	1,698
City of Billings	14,019	13,172	847	595	21,719	1,442
Wholesale Trade Area	55,156	50,830	2,758	1,588	78,308	4,346

Source: U. S. Censuses, 1950 and 1960.

Manufacturing

Employment in manufacturing has increased since 1950 in Yellowstone County where additions can be primarily attributed to petroleum refining. The manufacturing industry is basically engaged in the production of petroleum and other non-durable goods. In 1958, the census of manufacturing reported a total of 2,616 employees in Yellowstone County, of which 1,155 were in food and kindred products and 710 in petroleum refining. There is little indication that there will be any great increase in production of durable products since the market area will likely not warrant facilities for local manufacturing. The employment ratio should continue to rise, however, due to expansion of both food processing and petroleum refining.

Construction

Employment in the construction industry has declined by 2 per cent within Yellowstone County since 1950. Employment should remain constant within the County area supported by continued housing demands. After the completion of the Yellowtail Project and new transportation facilities, construction employment within the trade area will likely level off at about 7 to 8 per cent of total employment.

Transportation, Utilities and Communications

Employment in the transportation, utilities and communications fields increased in both Yellowstone County and Billings in the decade 1950-1960. This may be attributed to an increasing concentration of facilities at Billings. This industry has been established for some time and should experience a contributing growth in its employment.

Wholesale

The wholesale employment is concentrated in Yellowstone County and Billings, for reasons presented earlier. It is interesting to note that there has been a sub-

stantial increase in employment since 1950 while the ratio to total employment has decreased slightly. Future employment rates can be expected to remain in the neighborhood of 9 to 10 per cent.

Retail

Retail employment reflects the population changes that have been taking place throughout the area. Outside of Yellowstone County there have been corresponding declines in both population and retail employment. Conversely, there have been significant increases made in both population and employment in Yellowstone County and Billings. Retail trade should continue to be the largest single industry within the urban and county area.

Services

Services have increased since 1950 in the entire trade area. The gains have been made primarily in the City of Billings where finance, real estate and personal service offices have been increasingly concentrated. Government services and school size are also responsible for a large portion of the service employment base. The following U. S. Census categories have been grouped together under the headings of services:

- Finance, insurance and real estate
- Business services
- Repair services
- Private households
- Other personal services
- Other professional and related services

Public Services

The following U. S. Census categories have been grouped under this heading:

Entertainment and recreation services
Hospitals
Educational services, government
Educational services, private
Welfare, religious and non-profit membership
organizations
Public administration

This category has shown a significant gain from 1950-1960 and should show considerable gain over the next 20 years in light of the expanding programs of the Federal government, the need for more education, State employment expansion and other governmental services. The remaining miscellaneous employment categories constitute approximately 3 per cent of the employment base.

AGRICULTURE - THE TRADE AREA

The agricultural industry of the secondary trade area is one of the basic foundations of Billings' economy. Products from the trade area are responsible for much of the employment in the City's manufacturing and transportation industries. These products also provide much of the Consumer Funds that support the retail and wholesale industries. Thus, current trends in the agricultural pattern of the secondary trade area counties have a direct bearing on the economic stability of Billings and its future growth.

Technology is bringing significant change in the agricultural industry of the secondary trade area. The average size of farms is continuing to increase both in the irrigated and dryland areas. Operations are becoming highly mechanized and, thus, more efficient. The result is decreasing labor requirements and increased production. This is one of the basic factors involved in population decline in rural areas and the continued growth of urban Billings.

A comparison of the U. S. Census of Agriculture for 1954 and 1959 showed the size of farms within the secondary trade area grew appreciably between the agricultural

census periods. All farms increased in size from an average of 3,099 acres to 3,648 acres. A corresponding decrease in number of farms took place during the same period, declining from a total of 9,645 to 8,663. This trend in farm consolidation is expected to continue. Regrettably, the 1964 agriculture data is not yet available, preventing further investigation of these trends

The secondary trade area's primary agricultural income is derived from cattle. Although the livestock industry has suffered the past several years from low prices, it seems to be near the bottom of its cyclic economic swing. Field crops are also important, but the livestock industry constitutes the largest single factor in the agricultural economy.

Only 43.4 per cent of the secondary trade area is cultivated--1,408,368 acres out of a total of 32,445,550--although most of the area is classified as farmland. The major portion of the uncultivated farmland is devoted to grazing. Over 70 per cent of the value of all agricultural commodities are from the sale of livestock, amounting to a trade area cash income of 92 million dollars annually.

The secondary trade area is the center of the Montana cattle industry. The 1959 Census of Agriculture reported over 40 per cent of all the State's cash receipts for livestock and livestock products are earned within the trade area. The national market for the cattle crop in the secondary trade area is well established and expanding. Billings is the main buying and sales center for the secondary trade area and a large portion of the secondary trade area cattle move to the City for shipment out of State as feeders. Most of the area's cattle are sold in the midwestern states, but an increasing number is moving west. Out of the 691,170 cattle moved through Montana markets, 21.2 per cent were handled by the Billings' Auction and 9.5 per cent by the Billings Public Market in 1960. Miles City was next in volume with 10.1 per cent. Combined movements at these two major market points within the area totaled 40.8 per cent, of all cattle moved within the State.

The livestock foundation of the Billings' agricultural economy is fortunate in a number of respects. It is not as seasonal an activity, and supports a much larger population base than other areas that specialize in cash-grain crops. Generally, it is less speculative and considerably less risk is involved

The geographic pattern of irrigated farmland is associated with the rivers and streams of the area. According to the 1959 U. S. Census of Agriculture, there are approximately 500,000 acres of irrigated cropland within the secondary trade area out of a total cultivated area of 1,408,368 acres. The average size of irrigated farms is 160 acres. Value of irrigated products from these farms is comparable or exceeds that of non-irrigated cropland. Sugar beets and hay are the leading irrigated crops. Both have high value and stable markets provided by local cattle feeding and the large sugar refinery at Billings. The secondary trade area is the center of the State's sugar beet region.

Dryland farming occupies nearly one million acres of the total cultivated land within the secondary trade area. A number of field crops are grown, with spring wheat and barley being the chief grains. Value of field crops on non-irrigated land average approximately 35 million dollars annually.

Summary

The agricultural economy of the area is supported by cattle and irrigated crops--both having good market stability under normal national conditions. However, an agricultural economy of this nature is not especially dynamic, and production increases are gradually brought about through increased efficiency and application of scientific methods--or through irrigation projects that bring additional land into use.

BUSINESS AND MANUFACTURING - THE PRIMARY TRADE AREA AND BILLINGS

The business center of the trade area is concentrated in the primary section. Analysis of these segments of the economy will be limited to the seven primary counties and focused on Billings as the business core. Remaining counties of the secondary trade area have not been considered due to their extensive agricultural nature, low population densities and distance from the Billings business district.

The retail, wholesale and service industries accounted for 7,182 employees in the City of Billings in 1963. This constitutes nearly 50 per cent of the employed labor force working in Covered Industries. They also accounted for over 289 million dollars in sales receipts to the City. Thus, the past trend and future of these industries are significant considerations in the economic growth of the City. Table 11 traces the changes that have taken place in the three industries since 1954 within Billings and the Primary Trade Area.

Retail Trade

Retail trade has continued to climb with relative consistency within the Primary Trade Area, Yellowstone County and the City of Billings. Total retail trade for the area increased 15.2 per cent between 1954 and 1958 and 12.5 per cent between 1958 and 1963 for a total of over 44 million dollars. Much of this was attributed to Yellowstone County which increased receipts by 36.6 million dollars, over 26 million dollars of which occurred in the City of Billings.

Only modest increases were recorded in other counties of the primary trade area. Big Horn registered the largest gain, due primarily to a slight population increase since 1950. In general, however, the small increase in retail sales in the less populated portion of the trade area reflects an increase in income, rather than population gains.

Wholesale

Examination of Table 11 shows that both Yellowstone County and Billings declined significantly in wholesale sales between 1958 and 1963; \$7,832,000 and \$19,346,000, respectively. During this same period the State increased its wholesale sales by 10.7 per cent. This is especially noteworthy since other factors of retail and service trades in the City and County do not show any appreciable change in the normal growth pattern. It is further compounded by the close relationship between retail spending and wholesale receipts, and the fact that retail purchases were up 7.9 per cent in the City and 11.7 per cent in the County.

The loss in wholesale receipts between 1958 and 1963 is partly associated with a market that is not a local one. This is borne out in some degree by the large drop occurring in receipts from petroleum bulk stations amounting to \$7,838,000 in Yellowstone County between 1958 and 1963. These sales losses were primarily out of state. This is most likely a reflection of an atypical year in petroleum sales--especially in light of the fact that employment remained equal and two bulk stations were added. It is expected that a normal sales pattern has been resumed by this time, once again in light of the fact that refinery capacities are expanding.

The other large contributing factors in the decline of wholesale receipts in Billings can be related to the decline of cattle prices and production during 1963. Wholesale receipts from farm products--raw material, declined by over 20 million dollars in the retail trade area between 1958 and 1963. Agricultural receipts from livestock and livestock products sold during this year were down considerably, 5 million dollars from 1959 in Yellowstone County alone and over 1 million each in Big Horn, Carbon and Stillwater Counties. This, like petroleum sales, reflects a somewhat atypical situation, although the cattle market is one marked by periodic highs and lows, and production is affected accordingly. It is generally conceded that the market is recovering the prices and production should soon reach and surpass former levels.

Other wholesale items showing decline and indicating a location reaction were home furnishings and construction materials. This is a reflection on loss of wholesale money and, more specifically, a decrease in the rapid population expansion that occurred during the oil boom period. The implication is that there has been a considerable slowing of the overall economy as indicated by wholesale sales volumes. Wholesale receipts seem more indicative of this situation than retail, for it displays the dependency of the City on national market areas and basic resource commodities.

Services

Expenditure on services continued to rise in the retail trade area between 1958 and 1963. There is nothing to indicate changes other than a normal increase within the foreseeable future. It is significant, however, that the service industry has not increased at as rapid a pace as that of the State as a whole. This indicates the established position the City retains as a service center in relationship to the trade area and that there has been little increase in the trade area population outside of Yellowstone County for some time. Thus, the primary basis for increase is associated with growth of the City and County. This industry, as much as retail, will be closely tied to growth of the City.

Summary

Since 1958, an obvious recession has occurred, associated with the end of the oil boom era. Retail sales increased, although at a reduced rate. Wholesale dollar volumes in 1963 were 3.6 per cent below those of 1958. The services increased their receipts over 1958 by 21.7 per cent, although in the 1954-1958 period this increase amounted to 33.3 per cent.

So far, this decline has not abated. A comparison of wage earner numbers by those industries covered by Montana Unemployment Compensation Commission for 1960 and 1965 shows continued decline. During the five-year period, state-wide employment increased by 6,522 while Billings-Yellowstone County employment declined by 852. The largest numbers of job declines were registered in manufac-

TABLE 11

Retail, Wholesale and Service Receipts
Primary Trade Area

	RETAIL (000's)			WHOLESALE (000's)			SERVICES (000's)		
	1954	1958	1963	1954	1958	1963	1954	1958	1963
Big Horn	\$ 8,458	\$ 9,727	\$ 13,699	\$ 1,830	\$ 2,808	\$ 4,467	\$ 474	\$ 698	\$ 936
Carbon	7,000	6,621	8,184	2,940	2,846	3,636	463	548	705
Golden Valley	1,183	858	602	0	265	0	-	0	56
Musselshell	5,367	5,524	5,433	1,892	2,512	2,544	205	316	491
Stillwater	4,774	5,444	5,517	0	1,860	3,248	170	213	354
Treasure	1,090	1,184	1,273	461	494	0	0	0	0
Yellowstone	97,034	117,900	133,614	174,544	214,645	206,813	10,921	14,561	17,719
TOTAL	\$124,906	\$147,258	\$168,322	\$181,667	\$225,430	\$220,708	\$12,223	\$16,336	\$ 20,266
Billings	\$ 83,546	\$100,916	\$109,617	\$136,837	\$184,866	\$165,520	\$ 9,477	\$11,832	\$ 14,613
Montana	\$778,033	\$862,577	\$965,734	\$698,595	\$762,943	\$844,249	\$53,821	\$81,958	\$100,358

Source: U. S. Census of Business

TABLE 12

Montana U.C.C. - Covered Industry Employment
Montana and Yellowstone County
1960

Industry	Montana		Billings		Montana		Billings	
	Employment	% of Ind.	Employment	% of Ind.	Employment	% of Ind.	Employment	% of Ind.
Mining	6,641	6.1	659	3.9	7,456	6.5	454	2.9
Construction	11,376	10.5	1,751	10.5	11,567	10.1	1,589	10.0
Manufacturing	20,193	18.6	3,111	18.7	21,783	18.9	2,629	16.5
Transportation, Communications, and Utilities	9,982	9.2	1,145	6.8	9,789	8.5	942	5.9
Wholesale/Retail	40,366	37.1	6,323	37.9	42,214	36.6	6,473	40.7
Fire	6,415	5.9	1,246	7.5	6,693	5.8	1,296	8.1
Services	13,629	12.6	2,455	14.7	15,622	13.6	2,529	15.9
Total	108,602	100.0	16,690	100.0	115,124	100.0	15,912	100.0

Source: Billings Office, Montana Unemployment Compensation Commission.

turing - 482; mining - 205; and transportation, communications and public utilities - 203. Table 12 compares State and Yellowstone County employment for the covered industries.

INCOME AND RETAIL SPENDING

The average income in Billings and Yellowstone County is exceptionally high. This is a reflection of its function as a center for retail, wholesale and professional services, rather than heavy economic dependence on raw material production or manufacturing industries. This is emphasized by the average income levels found in counties surrounding Yellowstone that make up the primary trade area. The counties, as discussed previously, are characterized by raw material economies and lower average incomes. The income of families and workers in the retail trade area is shown in Table 13.

TABLE 13
Income - 1960

<u>County</u>	<u>Median Income - Families</u>	<u>Mean Income/Worker</u>
Big Horn	\$ 4,375	\$ 2,670
Carbon	4,336	2,747
Golden Valley	4,044	3,313
Musselshell	4,927	3,122
Stillwater	4,790	2,983
Treasure	4,538	3,006
Yellowstone	6,150	3,910
Billings	6,638	4,176
State	5,403	3,544

Source: U. S. Census, 1960.

Distribution of income also indicates a wealthy city and county. A much higher proportion of incomes are in the 10,000 plus dollars a year category that is found as a state average. Table 14 compares Billings and Yellowstone County with the state averages by income category.

TABLE 14
Income by Per Cent of Families

<u>Annual Income</u>	<u>Billings</u>	<u>Yellowstone County</u>	<u>State</u>
\$ 0 - 2,999	11.8	13.5	20.2
3,000 - 4,999	17.0	19.7	24.1
5,000 - 6,999	25.5	27.4	25.4
7,000 - 9,999	26.0	23.7	18.8
10,000 or more	19.7	15.7	11.5

Source: U. S. Census, 1960.

Most of the expendable income is used for the purchase of retail commodities. The average amount spent per capita for the retail trade area in 1963 was \$1,479. For Yellowstone County, the average was slightly higher than shown for the trade area in Table 15, averaging \$1,518 for 1963. These can be compared against the state per capita expenditures which averaged \$1,366 for the same year.

Higher per capita retail expenditures in Yellowstone County reflect two things: higher incomes per capita, and its role as a retail center for various items; particularly, heavy durable goods. As might be expected, over 21 per cent of all retail expenditures are for food. This is comparable with the State average and nearly all purchases throughout the trade area are made locally. Other items purchased throughout the trade area that are made primarily at the local level are drugs, gasoline and small retail items such as second hand goods, feed, garden supplies, stationery goods, etc.

Yellowstone County serves as a retail center for general merchandise items, automobiles and automobile equipment, furniture and apparel commodities. These are

TABLE 15

Seven County Retail Trade Area - 1963

	Total (000)		Lumber, Bldg. Mat., Farm Equip.		Gen. Est. Sales		Food Stores		Auto Dealers		Gas		Apparel		Furniture & Furnish. Equip.		Eating & Drinking Places		Drug Stores & Proprietary Stores		Other Retail		Non-Store Retail	
	Est.	Sales	Est.	Sales	Est.	Sales	Est.	Sales	Est.	Sales	Est.	Sales	Est.	Sales	Est.	Sales	Est.	Sales	Est.	Sales	Est.	Sales	Est.	Sales
Big Horn	115	\$13,699	11	\$1,943	7	\$ 616	21	\$ 3,659	4	\$ 2,300	17	\$ 1,786	7	\$ 554	2	\$ (D)	26	\$ 1,128	3	\$ 229	13	\$ (D)	4	\$ 94
Carbon	130	8,184	10	1,106	9	843	25	1,930	4	1,002	12	726	10	341	2	(D)	33	962	4	295	21	(D)	-	-
Golden Valley	16	602	1	(D)	-	-	6	391	-	-	2	(D)	-	-	-	-	5	85	-	-	2	(D)	-	-
Musselshell	68	5,433	8	920	2	(D)	7	1,251	8	1,378	9	591	2	(D)	3	182	17	492	3	(D)	9	217	-	-
Stillwater	79	5,517	13	758	5	301	13	1,078	4	1,793	8	504	4	212	1	(D)	21	473	3	181	7	(D)	-	-
Treasure	18	1,273	4	517	3	145	3	247	1	(D)	1	(D)	-	-	-	-	5	110	1	(D)	-	-	-	-
Yellowstone	814	133,614	50	10,125	18	14,175	82	27,640	57	31,094	120	9,809	47	8,006	56	5,848	185	11,575	22	4,834	112	8,732	63	1,776
Total		168,322		15,369		16,080		36,196		37,567		13,416		9,113		6,030		14,825		5,539		8,949		1,870
Montana	7,797	965,734	684	107,937	317	87,635	993	210,387	485	198,218	1,075	81,955	450	48,433	336	34,177	2,025	89,237	260	31,803	901	63,101	271	10,860
Billings	608	109,617	29	6,886	15	13,367	54	22,362	38	27,245	91	7,253	45	7,717	52	5,441	136	9,045	14	2,819	84	6,219	50	1,263
Per Capita Sales																								
Trade Area		\$ 1,479		\$ 135		\$ 141		\$ 318		\$ 330		\$ 118		\$ 80		\$ 53		\$ 130		\$ 49		\$ 79		\$ 16
Montana		1,366		153		124		298		280		119		69		48		126		45		89		15
Yellowstone County		1,518		115		161		314		353		111		91		66		132		55		99		20

Source: U. S. Census of Business, 1963.

items typically handled by service and retail centers and higher per capita expenditures on these items would be expected since they draw from the majority of the population within the retail trade area.

The overall increase in retail trade for Billings and Yellowstone County between 1958 and 1963 did not equal that for the State and was considerably short of the percentage gain recorded between 1954 and 1958. This is generally attributable to the slowdown of the economy associated with the decline of the oil boom. Table 16 indicates the amount of increase within the various retail categories for the County during this declining period.

TABLE 16
Per Cent Increase - Retail Sales

	Yellowstone County		State	
	<u>1954-1958</u>	<u>1958-1963</u>	<u>1954-1958</u>	<u>1958-1963</u>
Farm Equipment	9.0	-9.7	4.1	-3.0
General Merchandise	6.1	34.6	6.5	18.0
Food Stores	21.1	15.1	24.0	10.0
Auto Dealers	12.5	19.8	6.4	22.0
Gas	13.4	5.1	26.0	21.0
Apparel	NA	6.4	19.6	21.0
Furniture, Home Furnishings, and Equipment	4.5	-23.0	4.5	6.0
Eat-Drink Places	-11.5	16.1	1.0	10.0
Drug-Proprietary Stores	NA	17.2	30.0	16.0
Other Retail	10.6	-3.0	8.0	-0.5
Non-Store Retail	22.4	-5.4	8.6	97.0
Total	17.7	11.4	11.0	12.0

Source: U. S. Census of Business.

Table 16 indicates that the expansion of the County's economy is slowing. It reflects the depression of the cattle market and decline of home construction.

However, there is no real sign of economic depression, but only a slowing of past growth rates. The high income level found in the County is reflected in the continuing increase in sales of automobile dealers and receipts from restaurants and bars. The overall indications are continued prosperity and a high standard of living in spite of a general slowdown of population growth, and an economy that is balanced enough to adjust and respond to any changes that take place.

MANUFACTURING

The most recent information available are the statistics contained in the 1958 Census of Manufacturers. With the exception of recent expansion in the petroleum refining industry, there is little information to indicate any significant shift in the situation since that time--with the exception of growth in the basic industries. The trade area's manufacturing industry is dominated by Yellowstone County and Billings, as indicated in Table 17.

TABLE 17
1958 Manufacturing - Primary Trade Area

<u>County</u>	<u>Establishments</u>	<u>Employees</u>	<u>Value Added (000)</u>
Big Horn	4	143	(D)*
Carbon	10	67	85
Golden Valley	-	-	-
Musselshell	4	12	36
Stillwater	7	35	235
Treasure	-	-	-
Yellowstone	95	2,616	53,518
Billings	62	1,487	14,399
State	925	20,197	196,915

*Withheld to avoid disclosure.

Source: U. S. Census of Business, 1958.

Preliminary figures for the 1963 Census of Manufacturing show that Yellowstone County had an increase of six establishments from 1958 to 1963, while in the same period the State, as a whole, increased by only 48 establishments. The increase in Yellowstone County was 6.3 per cent as against 5.2 per cent for the State. Yellowstone County had an increase in Value Added of \$45,751,000, or 36.6 per cent increase since 1958.

Yellowstone County accounted for 24 per cent of the Value Added by manufacturing in the State from 1958 to 1963. This indicates a growing role for Yellowstone County in general and the Billings Urban Area, in particular in the manufacturing industry of the State.

Yellowstone County dominates the petroleum refining industry of the State. In 1958, there were 710 employed in Billings out of a State total of 1,065 working in petroleum and coal products. The Billings industry also accounted for over 16 million out of the 24,081,000 dollars added in value within the State.

The combination of food and kindred products and petroleum refining made up 1,865 of the 2,616 employed in manufacturing in Yellowstone County in 1958, accounting for 71 per cent of all manufacturing employment. This points up the non-durable manufacturing pattern of the County by crediting only 20 per cent of the employment base to durable manufacturing.

There are a number of factors that may limit the growth of manufacturing in certain areas within Yellowstone County. The basic problems are distance, low population densities and a small local market. These problems will not be resolved within the foreseeable future, for eastern Montana shows all signs of remaining remote from large population centers and sparsely populated. There are exceptions, of course, but for all practical purposes an extensive agricultural economy will prevail. As a result, the Yellowstone County area will remain generally unattractive to durable manufacturing industries, with the possible exception of some small specialty items where transportation costs are not such an outstanding factor.

There are areas in non-durable manufacturing, however, that have not been developed to their full potential. Cattle feeding, related processing and packing are the most obvious examples with the possibility of specialty meat products being manufactured in Billings. Other possibilities lie primarily in the processing of agricultural commodities. The most realistic opportunities are within the area of manufacturing of non-durable products. Increased manufacturing employment will occur primarily through the expansion of agricultural processing.

AUTOMOBILE OWNERSHIP

The automobile strongly indicates that Yellowstone County has a prosperous economy. The continued increase in automobile retail sales points to a high level of prosperity. The number of registered automobiles increased by 44 per cent between 1950 and 1960 while population increased by only 29 per cent. Since 1950, the average number of automobiles per household has risen from 1.10 to 1.44 in 1964. This trend is expected to continue and by 1985 approach an average of two cars per household. Table 18 shows the number of Yellowstone County cars per capita and per household.

TABLE 18
Automobile Registration by Year - Yellowstone County

<u>Year</u>	<u>Number of Cars</u>	<u>Cars per Capita</u>	<u>Cars per Household</u>
1950	18,539	.33	1.12
1951	19,645	.33	1.10
1952	22,146	.36	1.10
1953	24,588	.39	1.16
1954	27,333	.41	1.25
1955	28,616	.41	1.24
1956	29,650	.42	1.28
1957	30,313	.41	1.28
1958	32,239	.41	1.27
1959	33,252	.42	1.31
1960	33,485	.41	1.28
1961	33,962	.41	1.35
1962	34,573	.41	1.36
1963	35,763	.42	1.38
1964	36,844	.43	1.42

Source: Population and Household Estimates: Sales Management, Inc., Survey of Buying Power.

URBAN AREA RESOURCES

Resources can be many things. A trade area may enumerate its resources in terms of mineral deposits, acres of tillable land, sustained yield timber, or kilowatt hour of hydroelectric capacity. An urban area may list among its resources the size and composition of its labor force, its disposable income, a college or university and its amenities. The Billings Urban Area contains no forests and no presently tapped minerals. Its labor force and income levels have received individual mention elsewhere in this report. This section will deal with other resources of the urban area.

Recreation

The land use survey, conducted by the City-County Planning Board Staff in 1965, counted 91 parcels totaling 797 acres designated as park or recreation land. Approximately 42 per cent of the designated park land was improved, with special purpose park land having the largest land area total, Table 19.

TABLE 19
Billings Urban Area
Recreation Land Summary - 1965

<u>Facility</u>	<u>Number</u>	<u>Acres</u>	<u>Per Cent</u>
Improved	(28)	(338.2)	(42.4)
Neighborhood	11	43.1	5.4
Community	10	138.4	17.4
Regional	1	9.4	1.2
Special	6	147.3	18.4
Unimproved	63	458.8	57.6
Total	91	797.0	100.0

Source: Billings-Yellowstone County Planning Board.

Recreation authorities recommend a hierarchy of park types to best serve the recreation of an urban area. The system is keyed to a service population and to a service radius. Briefly, the system would be:

Neighborhood Playground	4,500 persons	3 - 7 acres
Neighborhood Park	4,500 persons	3 - 5 acres
Community Playfield	10,000 persons	15 - 20 acres
Community Park	4,500 persons	25 acres
Regional Park	no limit	150 acres+
Reservation	no limit	1,000 acres+

Furthermore, a total of one acre per one hundred population existing or anticipated is a common guideline in determining gross acreage requirements. With Yellowstone County's estimated 1965 population of 86,900, of which 90 per cent is estimated to reside within the urban area, 782 acres would be the recommended park acreage. Utilizing the above guides, a total of 464 acres for 46 neighborhood and community park facilities, and 318 in regional-use facilities no smaller than 150 acres each would be adequate for Billings. As can be seen from Table 19, Billings exceeds the total acreage, but in relatively small parcels for community and regional use.

Water

As a resource, water in Billings is important. The Yellowstone River, part of the Missouri River Basin, drains most of the southeastern part of Montana. Average monthly stream runoff, measured at Billings, ranges from a low of approximately 0.1 million acre-feet in February to a high of approximately 1.4 million acre-feet in June.

Potable water supply capacity exceeds 45 million gallons per day pumped from artesian sources. The maximum recorded demand was slightly in excess of 32 million gallons. The average daily consumption has been 12.4 million gallons per day.

Industrial Sites

The 1965 Land Use survey revealed approximately 3,300 acres of industrial land in the Billings Urban Area. Not all of this acreage supports an industrial improvement, but it is coterminous with one and is so zoned. A plot of industrial land by neighborhood shows that nearly all industrial land is linked to major transportation facilities. The largest single parcel, 1,421 acres, is found at Logan Airport.

Industrial sites of significant size are located in 17 (of 39) other neighborhoods and range in size from 13 to 407 total acres within a neighborhood. In almost every case, those neighborhoods adjacent a transportation resource; i.e., the airport, the railroads, the Yellowstone River, or the proposed freeway, contain industrial sites. Table 20 lists by neighborhood the industrial acreages measured in the 1965 Land Use survey.

TABLE 20
Industrial Sites by Neighborhood - 1965

<u>Neighborhood</u>	<u>Acres</u>	<u>Per Cent Sub Total</u>	<u>Per Cent Total</u>
Central Business District	31.1	1.7	.9
East Billings	91.0	4.9	2.7
Broadwater	13.2	.7	.4
Grand	12.1	.7	.4
Washington	13.6	.7	.4
Taft	392.6	21.2	12.0
Garfield	48.7	2.6	1.5
Southwest Billings	47.0	2.6	1.4
Orchard	183.3	9.9	5.6
Newman	55.8	3.0	1.7
Industrial	133.2	7.2	4.1
Lampman	55.4	2.9	1.7
Heights	25.0	1.4	.7
South Billings	184.2	9.9	5.7
Humble	407.1	21.9	12.5
Lockwood	67.2	3.6	2.0
Pine Hill	67.4	3.6	2.1
Others except Rims	23.9	1.5	.7
Sub Total	1,851.8	100.0	(56.5)
Rims (Airport)	1,421.4	-	43.5
TOTAL	3,273.2	-	100.0

Source: Land Use Survey, 1965.

BILLINGS' ECONOMIC FUTURE

The economic situation of the Billings area has been presented in terms of trade, employment and industry. The basic factors associated with the surge of economic activity and population increase are a combination of oil exploration, the normal growth in commercial activities associated with the business center of a highly productive agricultural center, and the increase in manufacturing in relation to the State as a whole.

Census data shows that trade has decreased, reflecting slower population growth rates. Certain categories of sales, however, indicate that the economic condition of the City remained at a high level in spite of declining growth rates. This indicates a sound economic base and one that is well adjusted to the resources of the area.

Billings functions in a fundamental, but complex way. For a city to grow, its net income must likewise grow. The base industries, that is industries which produce goods that are sold to a national market, must put increasing amounts of money in the form of payroll and direct purchases into the city's cash flow cycle. These inputs stimulate the service industry employment which in turn generates payrolls and direct purchases. Simply put, base industry brings money into the community; service industries circulate it. A general guideline is the ratio 1:2:6, where one base industry job generates two service industry jobs which generates six people. For Billings to grow, it must secure the necessary base industry. From the foregoing analysis, it is evident that Billings is becoming more heavily dependent on the productive capacity of its agricultural hinterland and its ability to compete in the national market.

Realistically speaking, the prospects for expansion and diversification of the manufacturing base are somewhat restricted due to basic locational factors. Essentially, Billings is best suited to industries that process locally produced raw materials for marketing outside of its local trade area. The prospects for increased manufacturing of durable goods would appear largely subject

to the consumptive capacity of the local market. Although many of the physical factors needed by the industries are available in Billings, its location and distance from market areas remains a critical factor. Until Montana and adjoining states become populous, limits exist on the production of durable goods to any great extent.

Future expansion will be contingent on the cultivation of existing and potential resources; agriculture and related products, minerals, people and geography, to name four. In the case of minerals, it would appear that the recent oil impetus for growth has been largely developed. Although minerals are always an unknown and potential catalyst to growth, it would appear that the mineral base has been thoroughly explored and production is related to sustained yield operations from established fields. There have been recent plant expansions at the petroleum refineries. Continental Oil has doubled the productive capacity of their facility while Humble Oil is undertaking an expansion program to result in more efficient operations.

Agricultural commodities provide one tangible basis for economic expansion. Presently, the market area for agricultural products is both local and national. Most of the products grown on irrigated land are consumed in local canneries, the sugar beet refinery and as cattle feed. Cattle produced in the trade area and sold in Billings are mostly shipped live to the Midwest, and to some extent the West Coast, for feeding and slaughter. Table 21 indicates the primary market areas showing the proportion of Yellowstone County cattle going to each state in 1960.

Over 50 per cent of the cattle movements out of the County are to midwestern states and approximately 7 per cent west to the West Coast. Total cattle movements out of the County in 1962 were 119,000 head indicating a considerable surplus, some of which could be retained for local feeding and slaughter. It is significant that the cattle production of Billings, like the State of Montana in general, has been and could likely remain a producer of exported feeder cattle. Increased local feeding and slaughter of locally grown cattle is basic potential for future growth. Any meat packing industry growth would benefit

and be benefitted by expansion of feed production and processing, transportation, and finance, to name three.

TABLE 21
Yellowstone County Cattle Shipments - 1960

<u>State</u>	<u>Per Cent</u>
Washington	8.4
Oregon	2.1
California	5.9
Idaho	1.9
Wyoming	9.5
Colorado	8.0
North Dakota	1.2
South Dakota	4.3
Texas	2.0
Illinois	10.7
Iowa	13.7
Kansas	2.8
Minnesota	11.7
Nebraska	8.1
Ohio	.2
Wisconsin	6.9
Others	2.6

The outlook for increased cattle production and processing is excellent. Better than 50 per cent of the cattle produced throughout the State are feeders which are shipped to other states for fattening. Output has more than doubled throughout the State since 1930, averaging 301,000,000 pounds for the 1930 to 1939 period and 725,000,000 pounds for the 1950 to 1959 period. With increased production within the trade area at rates comparable with past State averages and retention of an increased percentage of total cattle production in Yellowstone County for slaughter, a noteworthy increase in employment will result.

Geography, that is geographic location, is both an asset and a liability. The distance factor and its negative effect on marketing of consumer goods has been thoroughly explored. This same relative isolation can likewise be an advantage in terms of services, particularly governmental and related services. Billings is the centroid of a geographic area encompassing approximately 100,000 square miles. Within this two-state area are approximately 360,000 people. Those cities competing with Billings, insofar as population drainage areas, are Bozeman, Helena, Great Falls and Sheridan, Wyoming.

It is a fact of contemporary life that the Services, governmental and other, are the fastest growing sector in the economy. In Yellowstone County, for example, Services increased from 14.2 per cent of total employment in 1950 to 18.5 per cent in 1960; Public Services increased from 13.8 per cent to 15.2 per cent in the same period, Tables 8 and 9. This shift is a product of our rising standard of living. Generally speaking, housing and food can account for a relatively fixed percentage of a family's annual income. The money left after these necessities is put in Services--savings, stock market, boat and motor, social club dues, and college tuition.

Emphasizing its geographic position and its existing and potential population and service base, Billings could substantially increase employment in the public and governmental services. Such services as a regional Federal office, a college, a Veteran's Administration or Public Health hospital, or a military installation are "base industries" in that they bring money into the local economy. Billings would do well to promote the establishment or significant expansion of one or more of these services. The new Federal Office building is an example. Few can argue that the prospects, nationally, for continued increases in governmental employment are virtually certain. This trend seems to be the hallmark of affluence. Billings, as the socio-economic focus of a large area may properly experience a substantial employment increase, provided enough encouragement is evident at Helena and Washington.

Employment Projections

Projections of employment, like projections of population, are a hazardous undertaking. Yellowstone County employment increased by approximately 8,000 or 37 per cent between 1950 and 1960. A simple extrapolation of this trend to 1985 would be unrealistic. Montana Unemployment Compensation Commission records have shown an absolute decline of 852 in total covered employment from 1960 to 1965. Continuation of this trend would appear highly unlikely in view of the foregoing appraisal of general resources and Billings potential.

A projection of employment by category for Yellowstone County is shown in Table 22. Total numbers, as found in the U. S. Census, are recorded for 1950 and 1960. Projections for 1975 and 1985, together with distribution between categories, are based in part on extrapolations of the 1950 to 1960 trend, as modified by the recent downturn, and on employment distribution projections published by the National Planning Association.³

Table 22 estimates show an absolute increase in total Yellowstone County employment over 1960 of 17,440 by 1975 and 28,170 by 1985. In sum, this represents an average annual increase of 3.9 per cent, slightly higher than the 3.8 per cent average annual increase registered between 1950 and 1960. Of particular significance, however, are the shifts in employment composition among the various categories. Agricultural employment, declining since 1950, continues the trend of consolidation and increased mechanization. Mining, Manufacturing, Transportation and Retail increase in total numbers but decline in relation to their share of total employment. Reflecting Billings' potential as a regional socioeconomic center, forecasts of Wholesale, Finance, Service and Government employment show significant increases.

³National Planning Association, Economic and Demographic Projections for 82 Metropolitan Areas, Regional Economic Projection Series, Report No. 66-R-1; The Association: Washington, D. C., May, 1966.

TABLE 22
Yellowstone County Employment Projections

<u>Industry</u>	<u>1950</u>	<u>%</u>	<u>1960</u>	<u>%</u>	<u>1975</u>	<u>%</u>	<u>1985</u>	<u>%</u>
Agriculture	2,373	11.0	1,928	6.5	1,530	3.3	1,500	2.6
Mining	78	0.4	404	1.4	450	1.0	500	.8
Manufacturing	2,026	9.5	3,360	11.4	4,320	9.2	5,010	8.5
Construction	1,866	8.7	1,985	6.7	3,430	7.3	4,430	7.6
Transportation, Communications and Utilities	2,633	12.3	3,265	11.1	3,820	8.1	4,210	7.2
Wholesale	1,576	7.4	2,060	7.0	4,260	9.1	5,710	9.8
Retail	4,483	21.0	5,706	19.4	7,200	15.3	8,200	14.0
Finance	3,046	14.2	1,660	5.6	3,700	7.9	5,000	8.5
Services			5,722	19.4	9,300	19.8	11,600	19.8
Government	2,960	13.8	2,565	8.7	7,400	15.8	10,450	17.8
Other	361	1.7	815	2.8	1,500	3.2	2,000	3.4
Total	21,402	100.0	29,470	100.0	46,910	100.0	58,610	100.0

It has been shown in previous sections that the Billings Urban Area has accounted for an increasing share of Yellowstone County employment. In 1950, the Billings Urban Area's proportion of total Yellowstone County employment was 69 per cent. By 1960 this proportion had risen to 78 per cent. It is estimated that what will then be considered as the Billings Urban Area will account for approximately 83 per cent of Yellowstone County employment in 1975 and approximately 87 per cent in 1985. Estimates of employment for Yellowstone County and the Billings Urban Area are shown in Table 23.

TABLE 23
Billings Urban Area
Employment Projections

Industry	1975				1985			
	County		Urban Area		County		Urban Area	
	Employed	%	Employed	%	Employed	%	Employed	%
Agriculture	1,530	3.3	320	0.8	1,500	2.6	300	0.6
Mining	450	1.0	430	1.1	500	0.8	450	0.9
Manufacturing	4,320	9.2	3,680	9.5	5,010	8.5	4,500	8.9
Construction	3,430	7.3	2,910	7.5	4,430	7.6	3,990	7.9
Transportation, Communications and Utilities	3,820	8.1	2,680	6.9	4,210	7.2	3,160	6.2
Wholesale	4,260	9.1	3,840	9.9	5,710	9.8	5,430	10.7
Retail	7,200	15.3	6,480	16.8	8,200	14.0	7,390	14.5
Finance	3,700	7.9	3,120	8.2	5,000	8.5	4,500	8.9
Services	9,300	19.8	7,610	19.7	11,600	19.8	9,850	19.4
Government	7,400	15.8	6,300	16.3	10,450	17.8	9,400	18.5
Other	1,500	3.2	1,270	3.3	2,000	3.4	1,800	3.5
Total	46,910	100.0	38,640	100.0	58,610	100.0	50,770	100.0

In Table 23, the shift in category proportion can be prepared between the County and the Urban Area. The allocation of employment to the Urban Area was based on estimates of the degree of centralization existing and anticipated. Agricultural employment will continue to be primarily non-urban. Conversely, Finance, Service and Wholesale employment will be almost solely urban. The exceptional increase in Government employment, four-fold in 25 years, is a reflection of the National Planning Association estimates referenced earlier.⁴ Those estimates, separating Federal from State and Local Government employment, show approximately 85 per cent of the 1985 Yellowstone County Government employment to be State and Local in nature. Wholesale employment is forecasted for

⁴ Ibid.

impressive gains reflecting the anticipated increase in Billings Wholesale Trade Area. Estimates of durable and non-durable Manufacturing employment increases in total numbers, but their relative importance in total employment declines.

In summary, it is felt that the future of economic expansion in Billings lies in diversification of employment in all categories, not solely in Manufacturing. More specifically, Billings has a better opportunity for growth by developing regionally consumed commodities; i.e., Wholesale, Finance, Services and Government. These, in turn, will promote others such as Construction, Retail and Manufacturing. It is re-emphasized that Billings' position as the hub of a 100,000 mile "people-shed" is its basic resource from which any expansion may be built.

PART II
POPULATION STUDY

Billings and Yellowstone County have grown steadily since the earliest census in 1890 and quite rapidly since 1940. The growth rate of Billings and Yellowstone County has far exceeded that of the State during a similar period, Table 24. The reasons behind this growth; oil, cattle, manufacturing and trade; have been documented in Part I of this report. Accompanying this growth have been significant changes in population distribution between 1950 and 1960. Comparing Figures 3 and 4, where the population of 1950 and 1960 are plotted on the 1960 street pattern, the filling in of the peripheral zones is readily comparable. For further comparison the Origin-Destination zones, as established by the 1964 DeLeuw, Cather Study, and subsequent neighborhood groupings are also shown. The distribution of population by enumeration district and age and sex group are listed in Appendix Table A-1.

TABLE 24
Population and Growth Rates

	1930 <u>Pop'n.</u>	1940 <u>Pop'n.</u> <u>Pct.Incr.</u>	1950 <u>Pop'n.</u> <u>Pct.Incr.</u>	1960 <u>Pop'n.</u> <u>Pct.Incr.</u>
Billings	16,380	23,261 42.0	31,834 36.9	52,851 66.0
Yellowstone	30,785	41,182 33.8	55,875 35.7	79,016 41.4
Montana	537,606	559,456 4.1	591,024 5.6	674,767 14.2

Source: U. S. Census

It should be noted that a vigorous City annexation policy between 1950 and 1960 was responsible for an increase of 23,865 in City numbers; however, the population within the 1950-delimited City in fact declined by 2,848 persons during the ten-year period. Nevertheless, the County's population increase of 23,141 between 1950 and 1960 was an impressive 41.4 per cent increase, far above the 14.2 per cent increase registered by the State. Basic to the County's population increase were farm consolidation and rural in-migration, oil exploration, discovery, and refinement and general employment opportunities.

While Yellowstone County enjoyed a rising population level, the Seven-County Retail Trade Area has experienced a consistent decline. A comparison of population totals by county for the past four census periods shows a general negative trend, Table 25. Only Big Horn County showed a positive net change which, if 1940 vice 1930 were the base year, amounts to but a 7 per cent increase in 25 years.

TABLE 25
Retail Trade Area Population Trends

<u>County</u>	<u>1930</u>	<u>1940</u>	<u>1950</u>	<u>1960</u>	<u>1965*</u>	<u>Pct. Change 1930-1965</u>
Big Horn	8,543	10,419	9,824	10,007	11,100	+37
Carbon	12,571	11,865	10,241	8,317	7,900	-37
Stillwater	6,253	5,694	5,416	5,526	5,300	-16
Golden Valley	2,126	1,607	1,337	1,203	1,200	-43
Musselshell	7,242	5,717	5,408	4,888	4,600	-36
Treasure	1,661	1,499	1,402	1,345	1,300	-24
Sub Total	38,396	36,801	33,628	31,286	31,400	-18
Yellowstone	30,785	41,182	55,875	79,016	86,900	+182
Total	69,181	77,983	89,503	110,302	118,300	+71

Source: U. S. Census 1930-1960

*Sales Management 1965

Economic and BILLINGS, MO

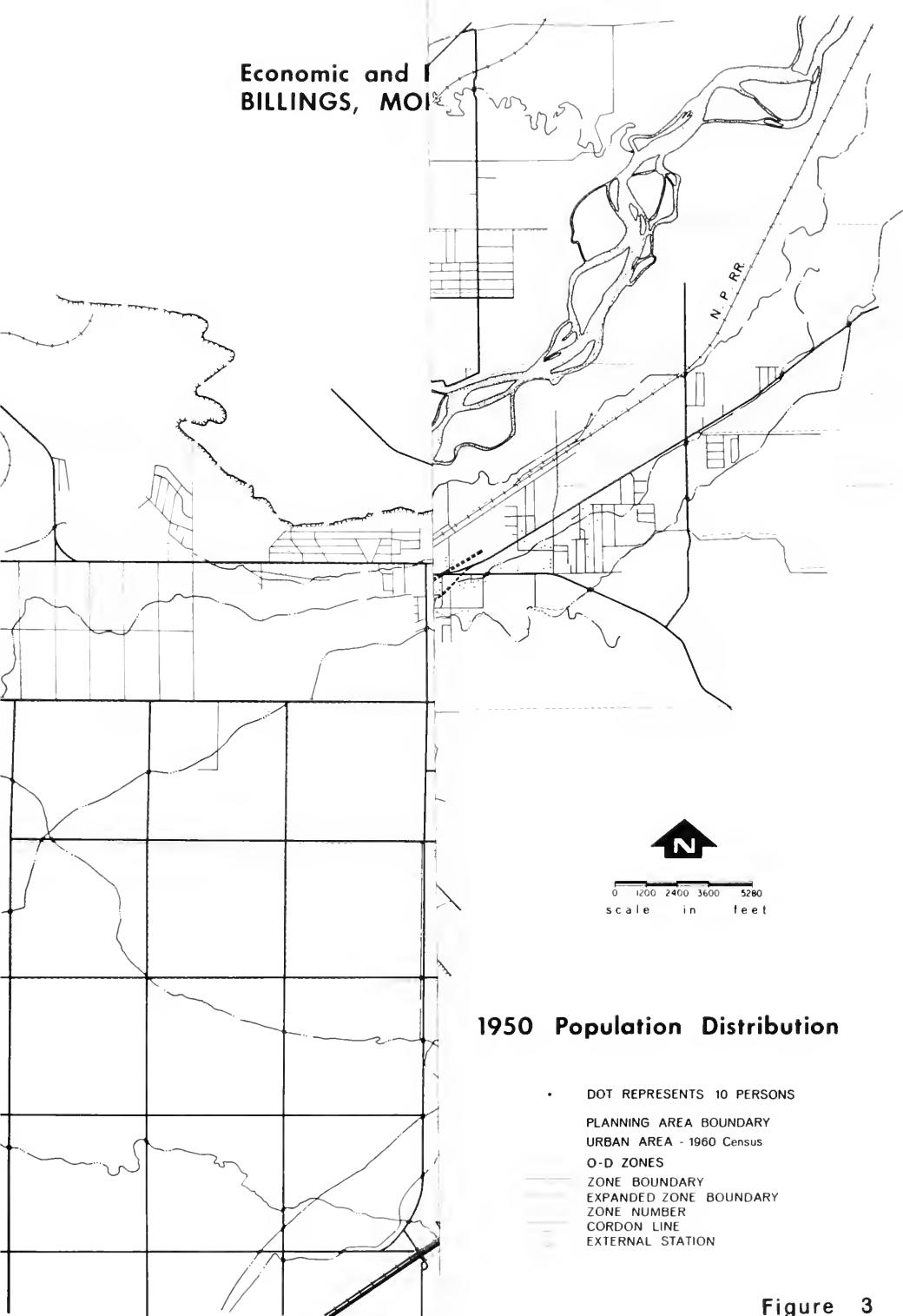
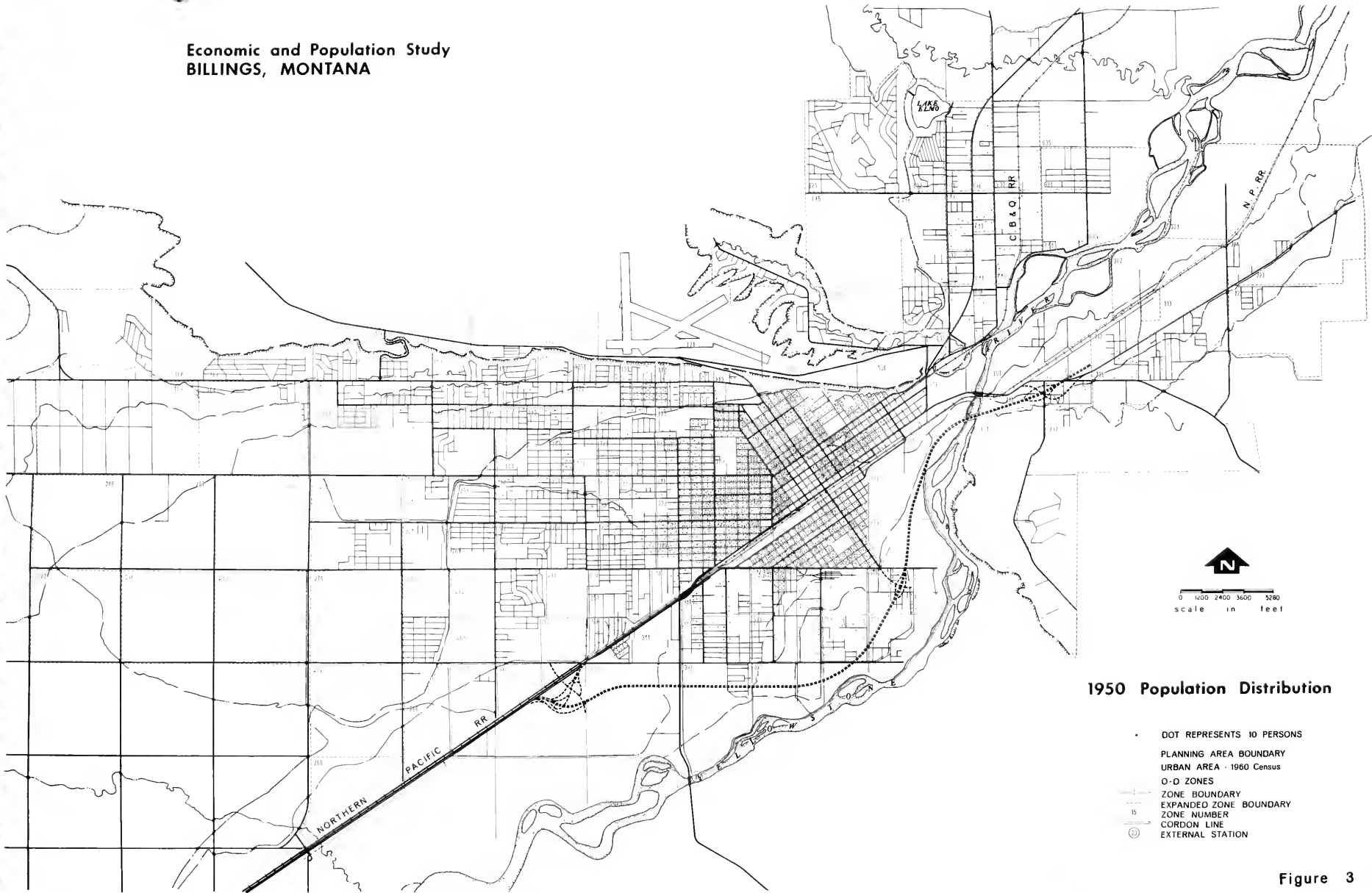


Figure 3

Economic and Population Study
BILLINGS, MONTANA



1950 Population Distribution

Economic and BILLINGS, M

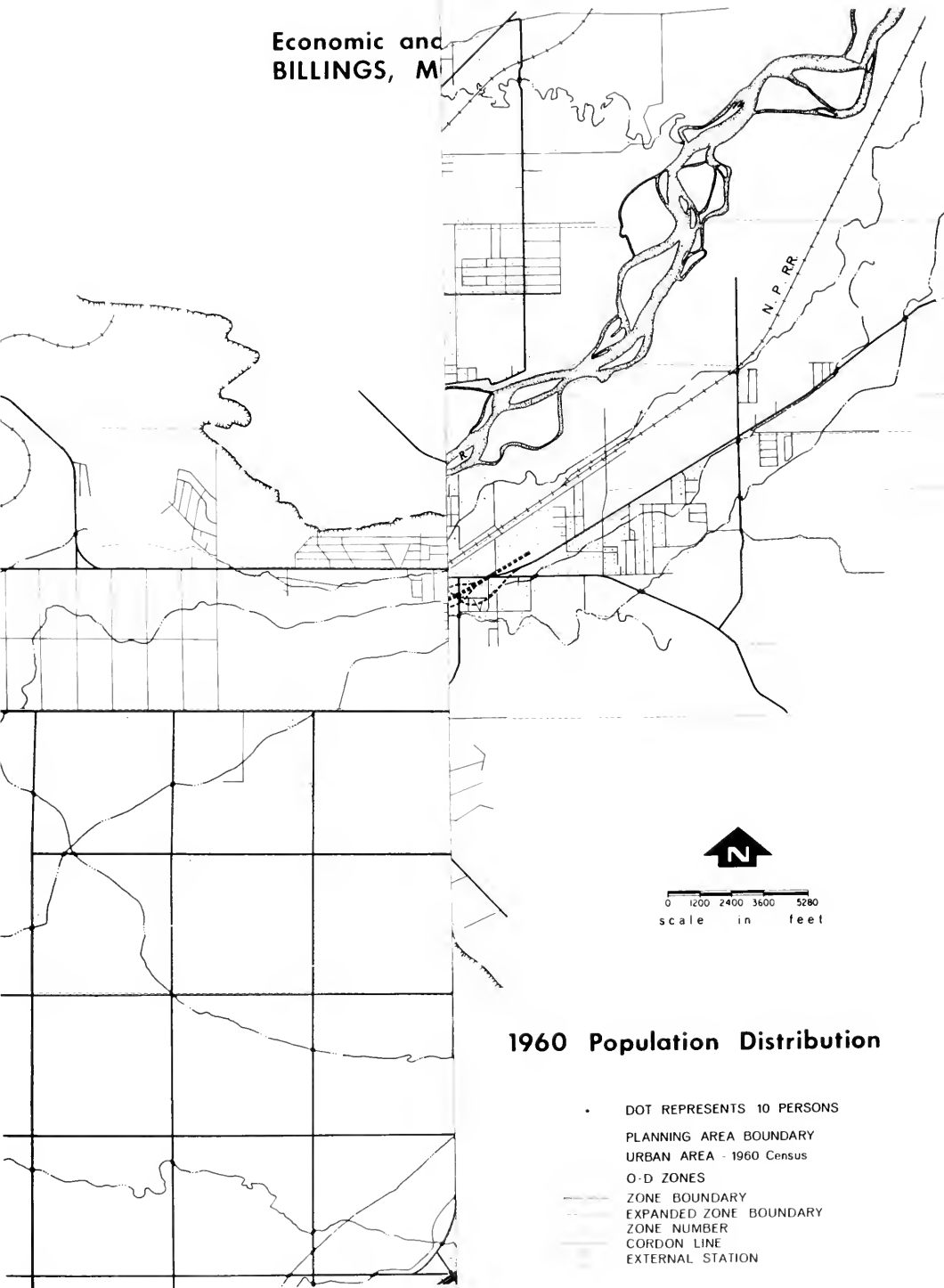


Figure 4

Economic and BILLINGS, M

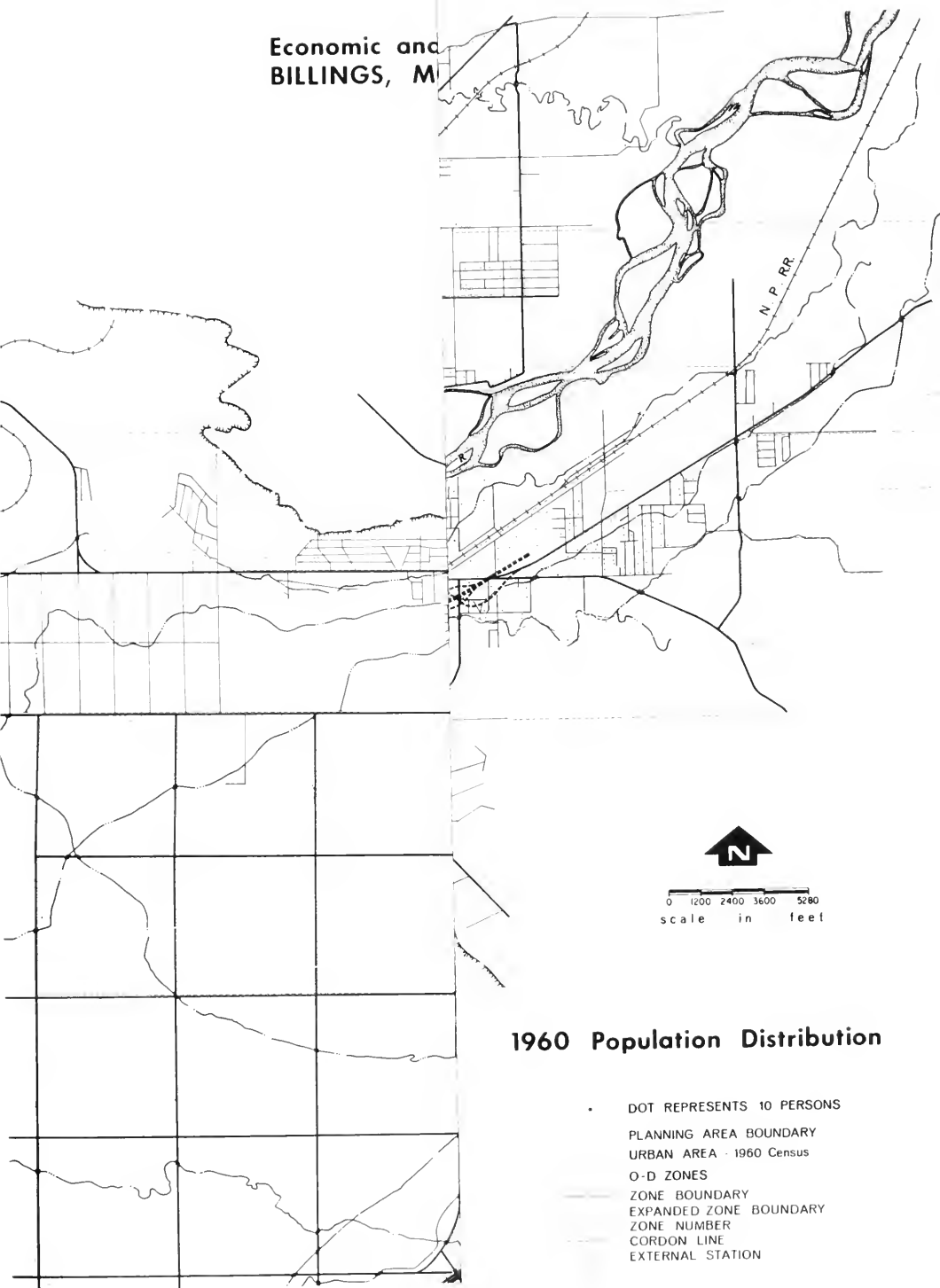


Figure 4

**Economic and Population Study
BILLINGS, MONTANA**

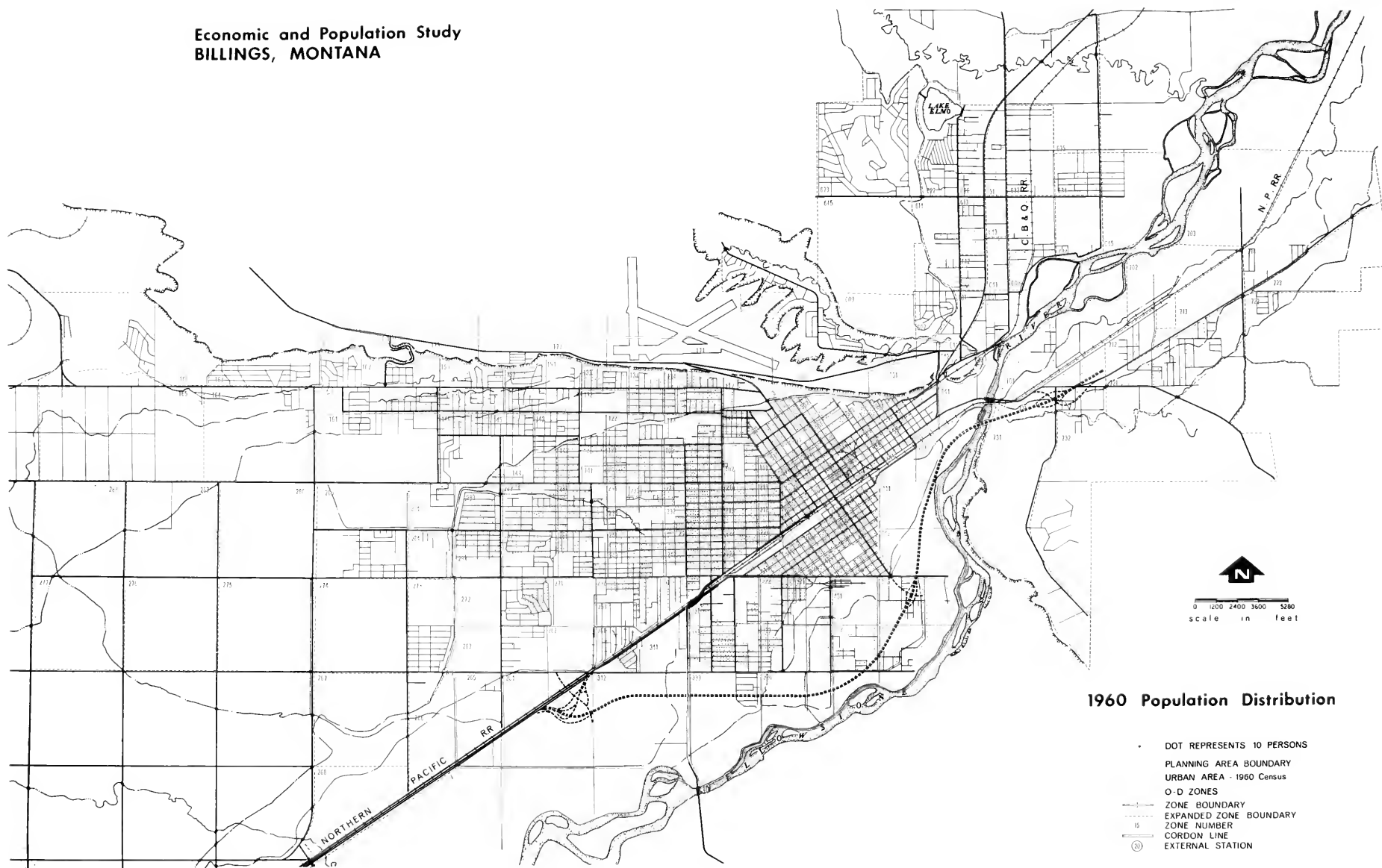


Figure 4

The Retail Trade Area, excluding Yellowstone County, experienced a 35-year net decrease of 18 per cent. Including Yellowstone County, the composition of the Retail Trade Area takes on an entirely different character, showing a net increase of 71 per cent in 35 years. The dominance of Billings and the long term urbanization of Montana's cities are reflected in these figures.

The population decline of the rural Trade Area counties is strongly related to changes taking place in the agricultural economy. As brought out in the preceding economics section, farm population is generally declining everywhere. In 1960, the rural population of the Retail Trade Area, less Yellowstone County, made up 82 per cent of total population of 31,286. Including Yellowstone County, the proportion of rural to total population declined to 35.7 per cent.

There is little evidence that the economic base and hence the population structure of the Retail Trade Area will undergo any significant change from the present through the forecast period. Total population numbers for the six non-urban counties of the retail trade area will likely continue their decline as the merger of farms continues. The area is best suited for cattle raising, complemented by irrigation of 342,500 acres; the latter currently supporting approximately 20,000 persons. The Yellowstone project, with its 43,500 additional acres of irrigable lands in Big Horn and Carbon Counties will likely increase the population in the two counties by approximately 1,500.

Previous Population Studies

Because of its clearly dominant position in southern Montana, projections of population for Billings and its Retail Trade Area must first begin with projections of Billings, Yellowstone County, and the State. This study is by no means the first in this endeavor. In fact, the present

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and future population of Billings has been the subject of at least six studies since 1958.⁴

The Billings-Yellowstone County Master Development Plan, developed in 1958, contained three estimates, high-median-low, for the 1964 Urban Area and Yellowstone County, reproduced below.

	<u>Urban Area</u>	<u>Yellowstone County</u>
Low estimate	84,000	96,000
Median estimate	93,700	105,700
High estimate	106,500	118,500

These estimates were based on average yearly growth rate assumptions of 3.4 per cent for low, 5.0 per cent for median, 7.3 per cent for high. To compare

⁴City-County Planning Board, Billings-Yellowstone County, Montana Master Development Plan - 1958, (Billings: by the Board, 1958).

Development Planning Associates, Inc., Economic Potentials of Billings, Montana, A Report Prepared for the Billings Chamber of Commerce. (San Francisco: by the author, November, 1963).

DeLeuw, Cather and Company, Transportation Plan, Billings Metropolitan Area Transportation Study, prepared for the State Highway Commission of the State of Montana and the City of Billings in cooperation with the U. S. Department of Commerce Bureau of Public Roads. (Chicago: by the author, February, 1964).

John R. Borchert and Russell B. Adams, Projected Urban Growth in the Upper Midwest: 1960 to 1975, Upper Midwest Economic Study Urban Report No. 8. (Minneapolis: the Study, August, 1964).

U. S. Department of Commerce Bureau of Public Roads, National Highway Planning Division, "Table C-2 Historical and Projected Population in Each Urbanized Area", unpublished, Washington [1966].

National Planning Association, Center for Economic Projects, Economic and Demographic Projection for 82 Metropolitan Areas, Regional Economic Projection Series - Report No. 66-R-1 (Washington: the Association, May, 1966).

accuracy, the Yellowstone County population was estimated in 1965 at 86,900, well below the low estimate prepared in 1958.⁵

In an economic report prepared for the Billings Chamber of Commerce, projections of population growth were based on an assumed average annual growth rate of 2.5 to 3.5 per cent between 1960 and 1980.⁶ The forecast for Billings from that report is shown below.

	<u>Annual Growth Rate</u>		
	<u>2.5 Per Cent</u>	<u>3.0 Per Cent</u>	<u>3.5 Per Cent</u>
1970	102,500	107,500	110,000
1980	130,000	145,000	150,000

The 2.5 per cent growth rate assumed a low level of prosperity, modest results from development efforts and population gains resulting mainly from natural increase and some in-migration from surrounding rural areas. The 3.0 per cent growth rate assumed a reasonably successful development promotion program and a stable County economy. The 3.5 per cent growth rate assumed a high level of national prosperity and a highly successful development program as recommended.

The Billings Transportation Plan, published in 1964, contained estimates of population of both the Billings Urban Area and Yellowstone County for the years 1965, 1970, 1975 and 1981.⁷ These estimates were based on projections of Yellowstone County's proportional share of Montana's population and on

⁵Sales Management, Survey of Buying Power, 1966, pp. D-161.

⁶Development Planning Associates, op. cit., p. 56.

⁷DeLeuw, Cather and Company, op. cit., Chapter VI.

estimates of future land use. The population estimates, excerpted from the Transportation Plan, are shown below.

<u>Year</u>	<u>Montana</u>	<u>Yellowstone County</u>	<u>Billings Urban Area</u>
1965	711,000	91,000	77,400
1970	755,000	105,300	91,100
1975	797,000	119,500	105,200
1981	870,000	140,000	125,000

Billings' growth prospects to 1975 were developed in a six-state framework by the Upper Midwest Economic Study, a regional planning organization associated with the University of Minnesota.⁸ The projections for each of the 173 defined urban areas in the Upper Midwest Region were based on past growth trends and estimates of change in trade area employment. Three estimates: low, probable, and high, prepared for both Yellowstone County and for the Billings Urban Area, are summarized below.

	<u>Low</u>	<u>Probable</u>	<u>High</u>
Billings Urban Area	83,500	90,100	96,700
Yellowstone County	110,800	119,500	128,300

The "probable" population estimate represents a 1960 to 1975 growth rate of 57 per cent in Billings and 51 per cent for Yellowstone County. By way of comparison, projections for Great Falls forecast a 35 per cent probable growth rate for the urban area and 30 per cent for Cascade County. The 15-year probable growth rates projected for Billings' potential competitors are Missoula: 37 per cent; Butte: 8 per cent; Helena: 24 per cent; Kalispell: 35 per cent; and Bozeman: 36 per cent.⁹

One series of population projections likely to be of significance in every

⁸ John R. Borchert and Russell B. Adams, op. cit., Table 1, pp. 7.

⁹ Ibid.

State as well as in Billings are those in the "Illustrative Projections of the Populations of States: 1970 to 1985."¹⁰ In this work, the birth, death and net migration components of population change were projected separately by five-year periods for every State. For each period, specific assumptions were made regarding natural increase and migration. Series I-B, selected as reasonable in view of the other alternatives, assumes that gross interstate migration rates of the 1955 to 1960 period will continue throughout the projection period and that national fertility levels will experience a very moderate decline from present levels. The projections for Montana by five-year intervals are:

1965	706,000
1970	753,000
1975	802,000
1980	859,000
1985	920,000

Other Montana projections for 1985 utilizing different combinations of migration and natural increase assumptions were 853,000, 881,000 and 950,000.¹¹ Supplementary projections, based on assumptions of foreign migration and net migration are shown in Table 26.¹²

¹⁰U. S. Bureau of the Census, Current Population Reports, Series P-25 No. 326 "Illustrative Projections of Population of States: 1970 to 1985," (Washington: U. S. Government Printing Office, 1965).

¹¹Ibid., Table 1, pp. 14 and 15.

¹²Ibid., Appendix A-1, pp. 90-91.

TABLE 26
Montana Population Projections - 1985
(No Net Interstate Migration)

	<u>Moderate Fertility Decline</u>	<u>Substantial Fertility Decline</u>
No Immigration from Abroad	997,000	923,000
Immigration from Abroad	1,017,000	942,000

Comparing Table 26 with the previously listed projection, an indication of anticipated out-migration from Montana can be seen. With a moderate fertility decline and no immigration from abroad, Montana is expected to lose 77,000 persons in 1985 to other states. Allowing foreign immigration, 300,000 per annum nationally, Montana is expected to lose 97,000 persons in 1985 to other states. Foreign immigration to Montana is forecasted at 19,000 persons in 1985.

Shortly after the publication of the Census projections described above, the Bureau of Public Roads developed for their use population projections for States and Urbanized Areas for 1975 and 1985 ¹³ These projections, prepared as amplification of the Bureau of the Census work, are summarized below.

	<u>1975</u>	<u>1985</u>
Montana	799,000	911,000
Billings Urbanized Area	98,000	134,000

These figures were developed to provide consistent Nation-wide population classifications and totals by States, regions and nationally, and will possibly be used to evaluate population projections prepared at the local level.

¹³U. S. Department of Commerce, Bureau of Public Roads, op. cit., Tables C-1 and C-2.

Probably the most recent projection involving Yellowstone County and Billings are those of the National Planning Association in their copyrighted Regional Economic Projection Series. These projections to 1975 involve development of historical employment-population ratios and extrapolation of trends to the projection year by straight line and exponential functions. Their 1975 estimated population for Montana was 778,000 and for the Billings Standard Metropolitan Statistical Area; i.e., Yellowstone County was 119,600.¹⁴

Summary

The seven foregoing referenced demographic projections represent the originator's best estimate of the future of Billings, Yellowstone County, and Montana. Some projections represent highly sophisticated techniques, involving several variables manipulated by electronic data processing. Others are more direct. However, because all projections, simple or complex, are based on assumptions of future actions, no one projection is superior to another. The projections described have been adapted to graphic form for visual comparison, Figure 5. As can be seen, the projections for Montana are remarkably uniform with a 2 per cent deviation from average at 1975 and only 9,000 difference at 1985. The 1975 projections for Yellowstone County are virtually identical with but 600 between the high and low figures.

Projections for the Billings Urban Area are not as uniform as are those for the State and Yellowstone County. Estimates for 1970 indicate an anticipated increase range over 1960 of 30,400 to 46,800 or 3,000 to 4,800 persons per year. At 1975, the two lower estimates indicate a 15-year increase of 29,400 to 37,300 persons, or an average annual increase of 3.2 per cent to 4.0 per cent. At 1985, the single projection means a 25-year average annual increase of 4.8 per cent or approximately 73,300 total persons.

¹⁴ National Planning Association, op. cit., Table 40, pp. 135.

The Future

As it has been shown, projections of population for Billings have been erratic at best. A partial explanation of the disparities seen in Figure 5 could be in the conflicting situation of increasing urban center with a decreasing rural hinterland. Growth prospects for the seven-county Retail Trade Area appear promising solely on the strength of Yellowstone County and, to a lesser extent, Big Horn County. Excepting Yellowstone County, the six counties show negative response to the anticipated general prosperity of the retail trade area, Table 27.

TABLE 27
Billings Retail Trade Area
Projected Populations

<u>County</u>	<u>1960</u> ¹	<u>1965</u> ²	<u>1975</u> ³	<u>1985</u> ³
Big Horn	10,007	11,100	11,800	13,000
Carbon	8,317	7,900	8,200	8,700
Golden Valley	1,203	1,200	1,100	1,000
Musselshell	4,888	4,600	4,300	4,100
Stillwater	5,526	5,300	5,300	5,200
Treasure	1,345	1,300	1,300	1,200
Sub Total	31,286	31,400	32,000	33,100
Yellowstone	79,016	86,900	117,300	146,500
Total	110,302	118,300	149,300	179,600

Sources: ¹U. S. Census
²Sales Management
³Harstad Associates, Inc.

Big Horn and Carbon Counties are the chief Montana beneficiaries of the Yellowstone Dam Project scheduled for implementation in 1967. One study consulted has forecasted a 30 per cent increase in the population of Harden alone by 1975.¹⁵

¹⁵John R. Borchert and Russell B. Adams, op. cit., Table 1, p. 8.

COMPARATIVE POPULATION ESTIMATES

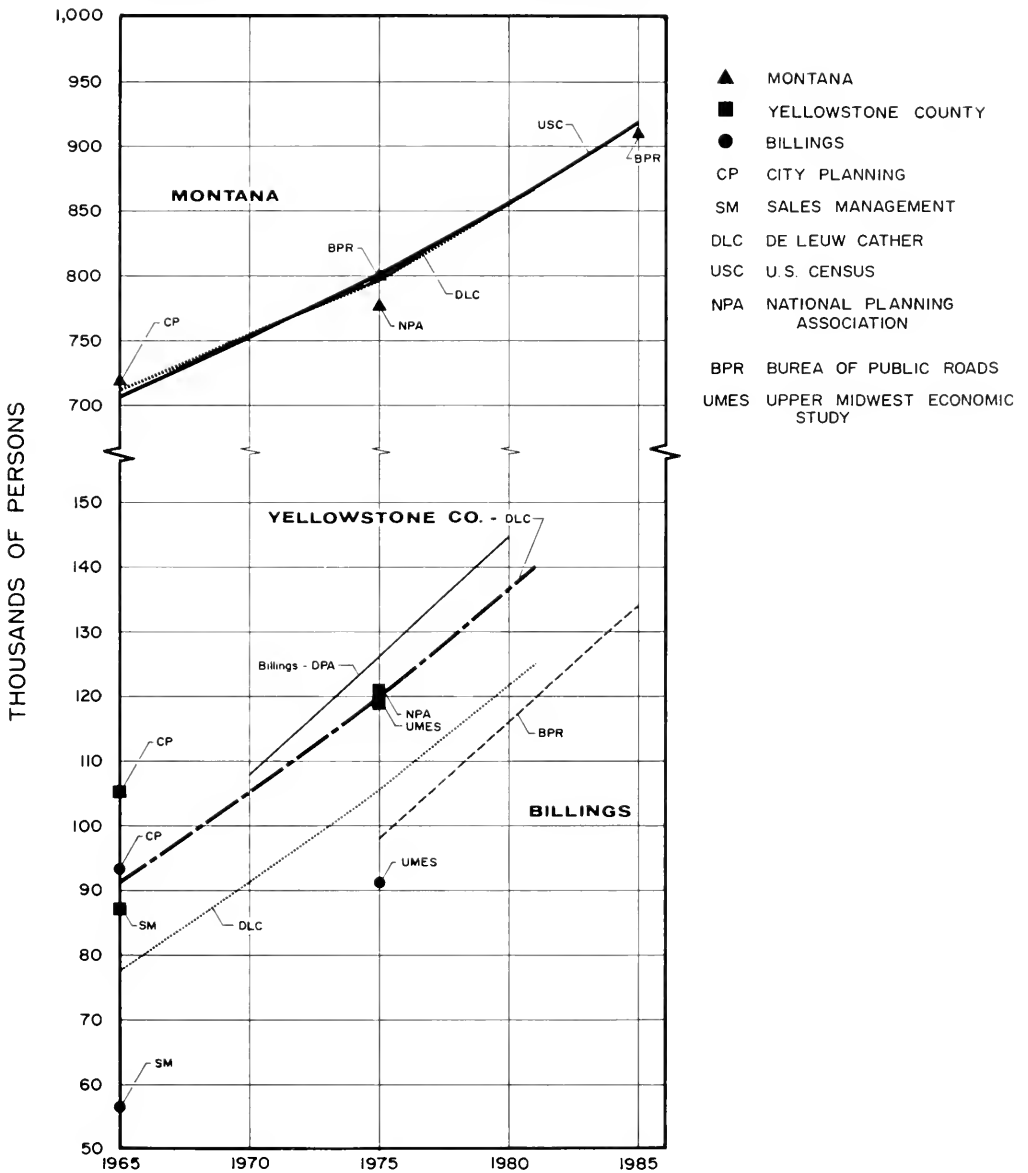


Figure 5

New resident population estimates resulting directly from the Yellowtail project range from 400 to 1,500 persons. Golden Valley, Musselshell, Stillwater and Treasure Counties continue their trend of decline although at a reduced rate. While difficult to substantiate, it is opined that farm consolidation will reach a size beyond which increased mechanization will require an accompanying increase in operators. Between the present and 1985, the total population of the Retail Trade Area counties, except Yellowstone County, is not expected to vary appreciably; however, the internal composition and total of the individual counties might change.

Yellowstone County is quite the reverse of the above forecast. The County has registered no less than a 34 per cent census period increase in population since 1930, an average 4.1 per cent per year increase between 1950 and 1960, and an estimated 2 per cent per year between 1960 and 1965. Estimates for 1975 and 1985 are contingent on the employment forecast developed in the economics section of this study and summarized in Table 22, page 47.

The censuses of 1950 and 1960 showed a State-wide employment-to-total-population ratio of 37 per cent in 1950 and a decline to 34 per cent in 1960. Yellowstone County showed 38 per cent employment-to-population in 1950 and a virtually identical 37 per cent in 1960. One projection of employment-to-total-population for 1975 shows 40 per cent for Yellowstone County and 37 per cent for the State.¹⁶ In this light an employment-to-total-population ratio for Yellowstone County is estimated at 40 per cent for 1975 and 1985. The population of Yellowstone County is thereby estimated at 117,300 in 1975, a 3.2 per cent per year increase over 1960, and 146,500 in 1985. Extrapolations of past population growth rates place the 1985 Yellowstone County population at 140,800 to 152,400, depending on the base year used.

¹⁶ National Planning Association, op. cit., Table 42.

For the Billings Urban Area, the 1985 population estimate of 126,000 to 134,000, the latter developed by the Bureau of Public Roads, is considered a most probable median estimate range in the light of verifying checks.¹⁷ Other estimates, contingent on varying assumptions of the Urban Area's share of Yellowstone County and Montana estimated 1985 population, range from a low of 117,200 to a high of 139,000. Employment forecasts of 50,770 jobs by 1985, Table 23, page 48, would generate approximately 126,900 residents at a 40 per cent employment-to-population ratio. Allowing a 5 to 6 per cent margin for that segment of the population not germane to employment-to-population ratios such as larger than ordinary concentrations of retired or senior citizens, college students, institution inmates and similar categories would place the 1985 Billings Urban Area population at 134,000. At the 1960 estimated 1.9 population per household for persons 65 and over, the difference between 126,900 and 134,000 is only 374 dwelling units.

The new service connection records of a public utility that services the Billings Urban Area indicate an average annual construction rate of 538 new dwelling units per year from 1960 through 1964. Construction at this pace meant an average annual increase of approximately 2.5 per cent during a period when the economic climate of Billings was in a period of decline.

Beginning with a 1965 dwelling unit count of 23,034, as determined by the Billings-Yellowstone County Planning Department, a conservative 2.5 per cent per year increase in dwelling unit stock would mean a 1985 total of 37,740 units. Expanding this dwelling unit estimate by a population per dwelling unit factor of 3.4 for new construction in central Billings

¹⁷U. S. Department of Commerce, Bureau of Public Roads, loc. cit

and 4.4 for new construction in fringe areas, a population estimate of approximately 134,000 results.¹⁸

Population Allocations

A 1985 population estimate of 134,000 for the Billings Urban Area means an increase of approximately 61,000 persons in 20 years. The allocation of this population in the Billings Urban Area is dependent on the availability of vacant buildable land, assumptions of population density, growth-time factors, and availability of municipal services. To facilitate subsequent transportation planning, these determinations were made utilizing the origin-destination zones developed in the 1964 DeLeuw, Cather study and summarized by neighborhoods. These groupings are graphically illustrated in Figure 6.

While the detail to which such allocations go does not lend itself to graphic or map portrayal, a tabular summary does. Accordingly, Table 28 shows population allocations by O-D zone and neighborhood by five-year increments to 1985. Growth factors, household sizes, and maximum theoretical population capacities by neighborhood representing the average of determinations by individual O-D zones within a neighborhood are also included.

The assumptions of density, family size, residential acreages, conversions, demolitions and vacancy rates were made in close collaboration with the Billings-Yellowstone County Planning Department. The saturation population figures represents a theoretical maximum allowable population level under conditions that are anticipated to exist on or about 1985. For example, the saturation population of a peripheral fringe neighborhood was computed

¹⁸ Billings-Yellowstone County Planning Department estimates a 1965 population per dwelling unit ratio of 3.1 in central Billings and 3.6 in fringe areas. Their 1985 assumed distributions are 3.4 persons per dwelling unit in central Billings and 4.4 persons per dwelling unit in fringe areas.

Economic and P BILLINGS, MON

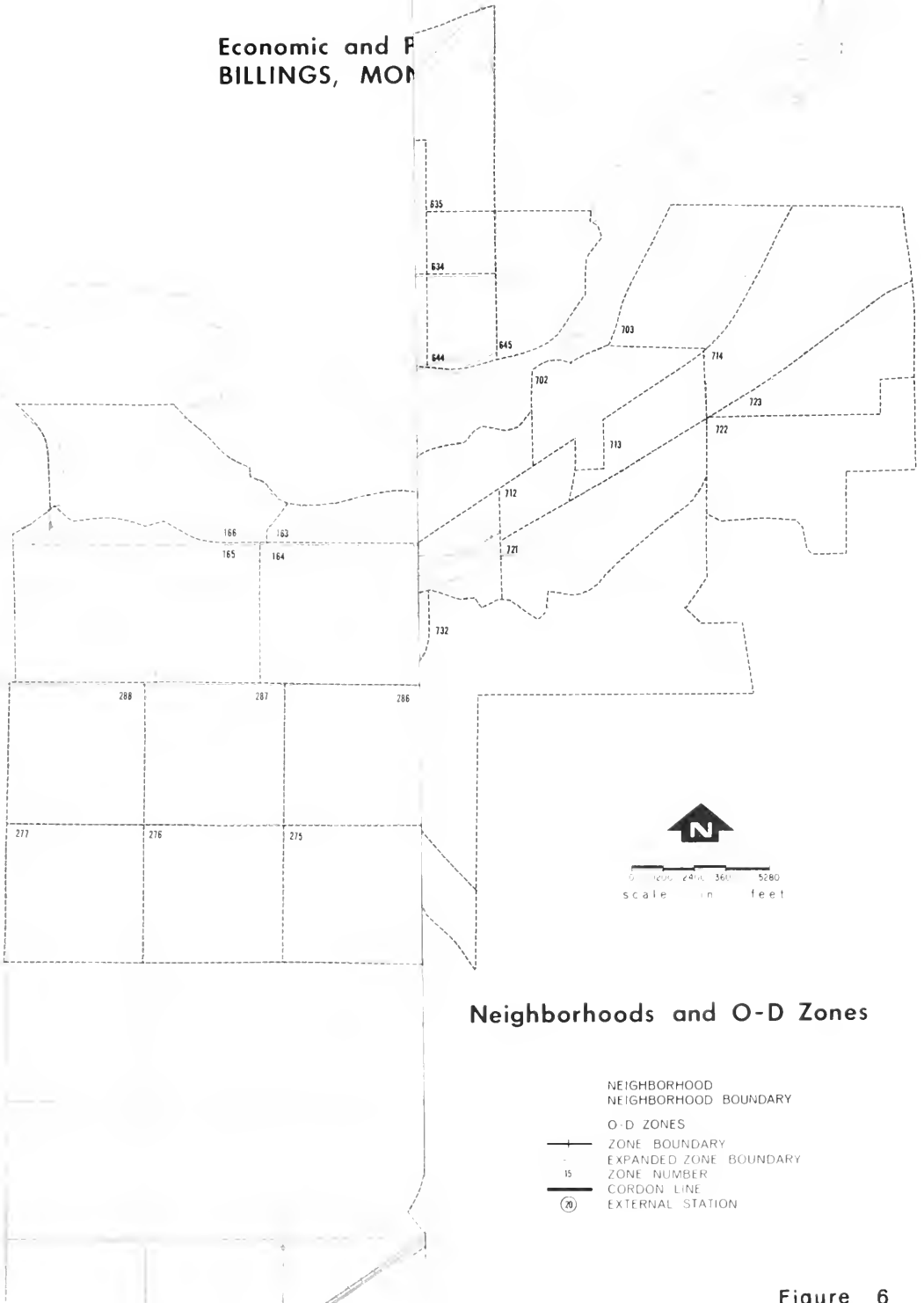


Figure 6

Economic and Population Study
BILLINGS, MONTANA

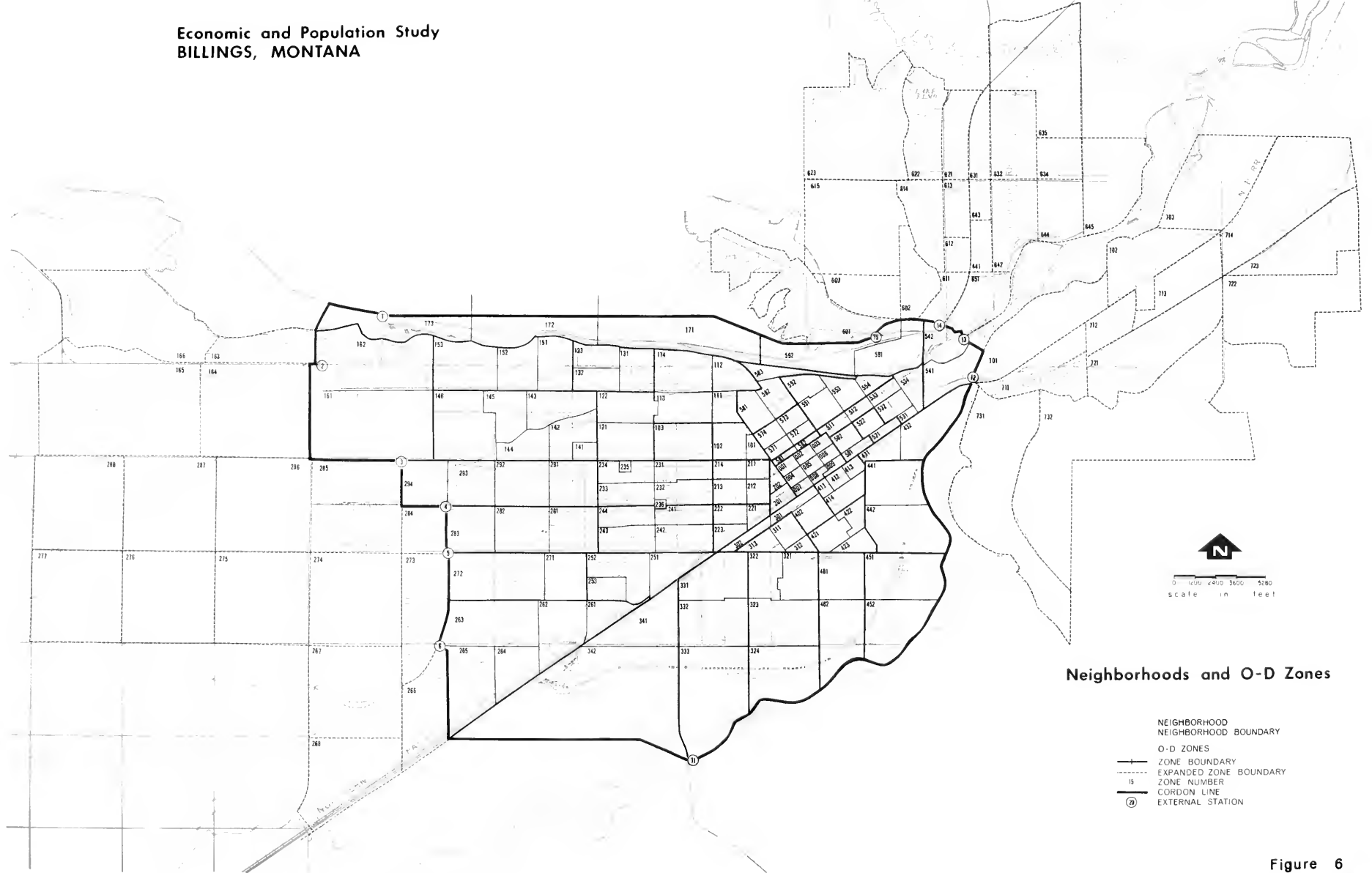


Figure 6

on the assumption of no sewer service available and, hence, large lot sizes and low population per acre. The available vacant acreage was reduced by a variable factor to represent that land consumed by non-residential uses such as streets, commercial and industrial, parks and schools, and vacant.

The allocation of population to O-D zones, in this instance, has been an extremely arduous undertaking. The development of a detailed comprehensive plan in which net residential density determinations and non-residential land allocations were made was evolving as this study was. In short, the data in Table 28 represents inputs to the comprehensive plan.

The land use survey and subsequent population study conducted by the Billings-Yellowstone County Planning Department in 1965 and 1966 estimated the 1966 Billings Urban Area population at 73,836. A dwelling unit count showed 19,852 dwelling units in the 19 central Billings neighborhoods and 3,145 dwelling units in the 20 neighborhoods which comprise the Billings fringe area. In 1965, the distribution of population was 85 per cent central Billings, 15 per cent fringe. By 1985, the population distribution is expected to be 59 per cent central Billings and 41 per cent fringe. The fringe area neighborhoods are expected to increase their numbers by nearly four times in 20 years. Central Billings neighborhoods will likely fill out by about 30 per cent over 1965 utilizing about 85 per cent of the theoretical saturation population level. The fringe area, on the other hand, will absorb only 35 per cent of its theoretical capacity for a Billings Urban Area average of 54 per cent saturation.

The growth of individual neighborhoods, and O-D zones within the neighborhoods, varies with assumptions of land demand pressures and total population shifts. As can be seen in examining the five-year growth factors of the 39 neighborhoods, the rate of individual growth varies from early-steady-late by zone to a Billings Urban Area growth pattern beginning

on the assumption of no sewer service available and, hence, large lot sizes and low population per acre. The available vacant acreage was reduced by a variable factor to represent that land consumed by non-residential uses such as streets, commercial and industrial, parks and schools, and vacant.

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at a slow rate and rapidly increasing during the later five-year period.

SUMMARY

Population forecasts for 1985 for the Billings Urban Area range from a low of 117,200 to a high of 139,000. Mid-range estimates of 126,900 to 134,000 are considered most probable with 134,000 used for population allocation purposes.

Yellowstone County, as the dynamic focus of the seven-county Retail Trade Area, is expected to contain a 1985 population mid-range estimate of 146,500, between a high of 152,400 and a low of 140,800. Ninety per cent of the Yellowstone County population estimate is in the Billings Urban Area. The Retail Trade Area is expected to increase in population almost solely on the strength of Yellowstone County to approximately 179,600 by 1985. Five of the seven counties are likely to suffer population declines, however, during the forecast period.

Montana population forecasts for 1985, prepared by the U. S. Census, range from a low of 853,000 to a high of 950,000. A mid-range estimate of 920,000 was used for planning purposes. If the tide of out-migration from the State can be stemmed with increased employment opportunity, Montana could expect to retain large numbers of its native population. By 1985, the flow of out-migration from Montana is forecast to reach 97,000.

Table 28

POPULATION ESTIMATES BY NEIGHBORHOOD AND 0 - 0 ZONES

Neighborhood 0-0 Zone	1965	1970	1975	1980	1985	1985 Household Size	Maximum Population
C. B. D. Growth Factor	-18.2	-19.9	- 9.6	- 7.1			
001	115	107	90	85	82		
002	19	5	2	0	0		
003	144	75	19	9	0		
004	85	32	9	5	0		
005	65	48	10	2	0		
006	375	320	267	228	206		
007	54	54	10	3	0		
008	18	0	0	0	0		
009	16	24	7	5	0		
201	249	177	170	162	156		
202	401	374	374	372	371		
561	102	116	107	97	87		
562	38	43	36	27	22		
Total	1,681	1,375	1,101	995	924	1.7	924
East Billings Growth Factor	-34.3	-39.0	-42.5	-36.4			
501	2	2	0	0	0		
502	367	250	123	42	0		
511	221	144	81	32	0		
512	32	15	8	4	0		
521	0	0	0	0	0		
522	328	170	89	32	0		
531	0	0	0	0	0		
532	73	45	25	8	0		
533	27	32	19	8	0		
534	7	4	2	0	0		
541	0	0	0	0	0		
542	40	59	93	127	161		
Total	1,097	721	440	253	161	2.1	161
North Park Growth Factor	4.6	5.3	7.0	5.4			
551	843	976	1,163	1,374	1,517		
552	647	671	705	787	845		
553	365	386	413	477	539		
554	200	210	220	237	254		
572	508	474	406	270	164		
573	276	273	269	262	256		
582	1,056	1,080	1,107	1,172	1,243		
583	111	122	132	145	159		
Total	4,006	4,192	4,415	4,724	4,977	2.7	7,511
McKinley Growth Factor	9.1	10.9	12.7	9.3			
571	577	577	648	724	801		
574	433	454	461	471	478		
581	703	822	965	1,159	1,312		
101	566	647	743	855	947		
102	672	784	910	1,090	1,233		
111	658	652	641	624	614		
Total	3,609	3,936	4,368	4,923	5,385	2.7	6,769

Broadwater							
Growth Factor		1.7	2.0	2.9	2.0		
211	422	480	558	674	776		
212	519	570	638	723	801		
213	910	913	917	917	917		
214	856	950	843	833	822		
221	300	300	297	293	286		
222	813	786	749	705	647		
223	326	316	299	279	262		
Total	4,146	4,215	4,301	4,424	4,511	2.7	5,712
Rimrock							
Growth Factor		2.4	2.8	3.9	7.3		
112	923	929	936	953	1,167		
114	1,360	1,421	1,499	1,598	1,669		
131	1,021	1,032	1,045	1,062	1,079		
132	338	345	355	372	389		
133	656	673	690	717	741		
Total	4,298	4,400	4,525	4,702	5,045	4.6	5,045
Highland							
Growth Factor		1.1	1.5	1.4	1.3		
103	2,057	2,098	2,177	2,268	2,357		
113	673	694	721	759	793		
121	2,001	1,950	1,882	1,791	1,702		
122	1,091	1,142	1,193	1,241	1,288		
Total	5,822	5,884	5,973	6,059	6,140	3.2	6,832
Grand							
Growth Factor		5.5	6.7	8.2	6.0		
231	1,105	1,091	1,071	1,051	1,023		
232	1,116	1,123	1,136	1,157	1,170		
233	443	552	698	896	1,069		
234	437	505	584	675	747		
235	0	0	0	0	0		
236	7	7	7	3	0		
Total	3,108	3,278	3,496	3,782	4,009	3.1	4,529
Washington							
Growth Factor		5.4	6.2	7.7	5.9		
241	870	910	968	1,065	1,135		
242	1,232	1,239	1,245	1,256	1,266		
243	1,148	1,236	1,342	1,467	1,576		
244	772	868	980	1,112	1,228		
251	530	584	652	748	822		
252	1,011	1,025	1,039	1,059	1,076		
Total	5,563	5,862	6,226	6,707	7,103	3.1	9,469
Poly							
Growth Factor		20.8	20.8	24.0	14.7		
145	796	824	864	936	990		
146	1,300	1,752	2,300	3,085	3,683		
151	179	434	753	1,165	1,471		
152	971	1,039	1,107	1,233	1,335		
153	1,383	1,543	1,730	1,958	2,131		
Total	4,629	5,592	6,754	8,377	9,610	3.6	9,610

Rose Park Growth Factor	12.1	7.1	9.0	7.0		
141	0	0	0	0		
142	1,285	1,489	1,564	1,636	1,710	
143	879	981	1,073	1,253	1,396	
144	638	672	729	780	821	
Total	2,802	3,142	3,366	3,669	3,927	3.7 5,086
Burlington Growth Factor	4.5	3.5	4.5	3.2		
291	1,611	1,691	1,719	1,759	1,797	
292	1,713	1,784	1,876	1,999	2,080	
Total	3,324	3,475	3,595	3,758	3,877	3.8 3,877
Miles Growth Factor	3.6	3.9	5.5	4.0		
281	1,608	1,611	1,615	1,622	1,625	
282	1,230	1,328	1,440	1,600	1,726	
Total	2,838	2,939	3,055	3,222	3,351	4.2 3,351
Central Heights Growth Factor	0.2	0.2	0.2	0.3		
271	0	0	0	0		
272	1,993	1,996	2,000	2,003	2,010	
Total	1,993	1,996	2,000	2,003	2,010	4.4 2,899
Lillis Growth Factor	19.0	19.0	22.5	14.8		
293	1,406	1,542	1,661	1,791	1,893	
294	113	266	490	844	1,133	
Total	1,519	1,808	2,151	2,635	3,026	3.6 3,630
Meadowlark Growth Factor	21.7	24.0	40.8	4.2		
283	1,365	1,633	1,888	2,583	2,412	
284	510	650	942	1,401	1,741	
Total	1,875	2,283	2,830	3,984	4,153	3.6 4,153
Taft Growth Factor	-13.0	-15.0	-10.3	- 9.1		
412	164	231	170	135	102	
413	54	58	46	33	23	
414	1,288	1,207	1,115	1,052	991	
422	510	272	165	91	38	
431	0	0	0	0	0	
432	7	18	3	0	0	
441	11	18	3	0	0	
442	165	109	124	147	170	
Total	2,199	1,913	1,626	1,458	1,324	2.5 1,924

Garfield							
Growth Factor	- 5.0	- 3.6	- 2.6	- 1.1			
301	14	3	3	0	0		
302	23	8	3	0	0		
311	665	623	592	572	564		
312	239	288	288	290	293		
313	498	482	474	465	462		
402	1,266	1,300	1,261	1,235	1,224		
411	120	127	68	25	0		
421	680	691	685	680	677		
423	605	381	389	398	406		
Total	4,110	3,903	3,763	3,665	3,626	2.8	4,345
Newman							
Growth Factor	11.5	12.4	15.2	11.2			
331	828	982	1,227	1,590	1,944		
332	2,525	2,743	2,930	3,208	3,358		
341	612	697	812	928	1,064		
Total	3,965	4,422	4,969	5,726	6,366	3.8	6,366
Central Area							
Growth Factor	6.0	5.5	8.9	5.9			
Total	61,655	65,336	68,954	75,066	79,525	3.3	92,193
Industrial							
Growth Factor	0.0	-20.0	-56.3	-100.0			
253	0	0	0	0	0		
261	0	0	0	0	0		
262	0	0	0	0	0		
264	0	0	0	0	0		
265	20	20	16	7	0		
Total	20	20	16	7	0	0.0	1,096
Boulder							
Growth Factor	166.1	75.4		53.0			
161	268	1,355	2,692	4,479	6,759		
162	1,033	2,107	3,383	4,813	6,595		
Total	1,301	3,462	6,075	9,292	13,354	4.4	14,502
Lampman							
Growth Factor	0.6	2.1	2.6	3.0			
263	641	645	659	681	707		
273	23	23	23	19	14		
Total	664	668	682	700	721	4.6	3,850

West Park Growth Factor	28.8	54.1	51.5	71.4			
285	215	277	427	647	1,109		
Total	215	277	427	647	1,109	4.1	3,678
Shiloh Growth Factor	0.0	0.0	0.0	0.0			
274	0	0	0	0	0		
Total	0	0	0	0	0	0.0	5,504
Southwest Billings Growth Factor	0.0	0.0	0.0	-100.0			
266	3	3	3	3	0		
267	0	0	0	0	0		
268	3	3	3	3	0		
Total	6	6	6	6	0	0.0	4,145
Yellowstone Growth Factor	30.1	48.6	49.4	63.8			
163	0	9	31	101	264		
164	82	95	139	174	240		
165	38	42	51	60	73		
166	13	27	36	49	52		
Total	133	173	257	384	629	4.3	26,968
Rims Growth Factor	0.0	0.0	0.0	22.2			
171	0	0	0	0	0		
172	0	0	0	0	0		
173	4	4	4	4	0		
591	14	14	14	14	14		
592	0	0	0	0	0		
Total	18	18	18	18	14	3.5	1,157
Orchard Growth Factor	32.4	29.0	35.3	30.8			
321	570	658	724	755	790		
322	908	1,089	1,309	1,507	1,652		
323	804	1,103	1,521	1,996	2,546		
451	320	482	680	1,296	2,027		
452	113	320	491	865	1,398		
461	0	0	0	0	0		
462	419	498	630	828	1,066		
Total	3,134	4,150	5,355	7,247	9,479	4.1	11,620
Ponderosa Growth Factor	0.0	43.6	48.2	62.7			
324	30	39	56	83	135		
333	9	0	0	0	0		
Total	39	39	56	83	135	4.4	7,845

South Billings Growth Factor	0.0	0.0	0.0	0.0		
342	38	38	38	38	38	
343	64	64	64	64	64	
Total	102	102	102	102	102	3.5 9,266
Alkali Creek Growth Factor	790.7	181.1	109.0	71.6		
601	54	481	1,352	2,826	4,850	
Total	54	481	1,352	2,826	4,850	4.4 7,704
Berch Growth Factor	68.7	82.3	76.9	60.6		
602	35	149	413	743	994	
603	0	66	185	506	814	
611	174	254	355	434	487	
612	321	330	343	348	352	
613	383	550	630	687	700	
614	181	361	779	1,703	3,226	
615	0	136	660	1,531	2,983	
Total	1,094	1,846	3,365	5,952	9,556	4.2 13,253
Lake Hills Growth Factor	67.7	43.9	71.9	29.5		
621	304	472	560	670	758	
622	182	292	477	899	1,718	
623	34	108	218	588	317	
Total	520	872	1,255	2,157	2,793	3.1 8,532
Bitterroot Growth Factor	14.7	28.3	35.6	52.2		
631	266	292	363	495	724	
632	338	418	572	809	1,328	
634	479	532	659	857	1,236	
Total	1,083	1,242	1,594	2,161	3,288	4.1 4,440
Heights Growth Factor	22.9	37.6	46.8	44.9		
641	188	210	240	293	416	
645	194	185	172	154	136	
651	298	338	430	628	945	
642	259	365	585	880	1,271	
643	130	157	196	302	443	
644	126	214	399	711	1,089	
Total	1,195	1,469	2,022	2,968	4,300	4.0 7,203
Humble Growth Factor	- 4.1	-13.8	-24.6	-72.1		
701	83	75	66	48	0	
702	0	0	0	0	0	
712	89	85	76	58	32	
713	24	24	20	16	2	
Total	196	188	162	122	34	1.9 981

Lockwood Growth Factor		10.0	19.9	17.9	52.9		
711	275	301	367	499	671		
721	605	688	851	969	1,617		
731	0	0	0	0	0		
732	84	71	53	31	4		
Total	964	1,060	1,271	1,499	2,292	3.9	11,849
East Lockwood Growth Factor		42.2	137.3	65.8	77.9		
722	109	162	255	365	563		
723	38	47	113	245	522		
Total	147	209	368	610	1,085	4.2	4,352
Pine Hill Growth Factor		8.7	16.9	20.5	35.0		
703	5	5	5	2	2		
714	306	333	390	474	641		
Total	311	338	395	476	643	3.5	7,190
Fringe Area Growth Factor		48.4	49.1	50.4	46.0		
Total	11,196	16,620	24,778	37,257	54,384	4.1	155,162
Central Area	61,665	65,336	68,954	75,066	79,525		92,193
Fringe Area	11,196	16,620	24,778	37,257	54,384		155,162
Planning Area Growth Factor	72,861	81,955	93,732	112,323	133,909		247,355
		12.5	14.4	19.8	19.2		

A P P E N D I X

APPENDIX TABLE A-1

Population by Age and Sex Group, 1960

Enumeration District	0 - 14		15 - 64		65+	
	M	F	M	F	M	F
1	96	91	184	192	42	39
2N	104	134	292	295	33	32
2P	153	153	299	341	37	33
3	93	80	228	269	44	59
4	27	26	266	281	86	66
5	56	59	179	251	50	89
6N	102	89	271	385	51	57
7N	118	95	284	392	18	27
8N	201	179	366	387	48	42
9N	115	88	215	214	18	18
9P	285	324	471	492	30	34
10N	183	161	251	253	21	14
10P	575	607	675	714	21	15
11A	408	410	529	535	30	26
11B	216	218	259	271	11	14
12N	132	158	305	355	58	62
13	93	78	213	276	51	66
14	39	52	150	202	43	67
15	49	55	195	331	66	134
16	50	44	145	275	37	69
17N	96	112	213	269	51	75
17P	11	14	24	24	02	02
18	155	172	308	341	38	49
19N	65	62	43	48	03	00
19PA	323	298	491	534	39	57
19PB	40	39	63	77	13	10
20NA	457	458	515	502	07	12
20NB	53	61	82	76	04	05
20NC	74	80	90	90	01	03
20P	28	22	28	28	01	00
21	438	464	494	529	12	17
22A	462	498	543	546	12	20
22B	72	77	117	118	04	03
23N	117	115	130	130	01	01
23P	503	465	511	526	13	10
24	496	517	733	790	48	67
25	191	190	314	337	30	39
26N	131	109	284	287	29	35
26P	07	05	14	14	02	01
27N	122	111	256	300	37	52
27P	35	31	32	30	04	06
28	109	99	216	295	56	69
29	123	121	300	333	39	62

Enumeration District	0 - 14		15 - 64		65+	
	M	F	M	F	M	F
30	121	121	252	355	58	101
31	97	109	214	296	55	100
32	113	136	267	299	67	92
33	126	153	278	317	72	55
34N	194	189	275	305	32	50
34P	42	45	49	57	04	06
35	130	146	243	289	73	83
36	155	129	235	248	46	59
37	148	168	218	240	27	35
38	79	82	224	210	69	68
39	100	105	261	208	95	35
40	146	126	214	179	65	27
41	186	43	280	267	50	40
42N	08	04	12	19	03	03
42P	103	117	150	148	17	19
42R	21	23	122	85	02	04
42S	06	07	07	07	01	01
43	210	204	342	357	32	31
44	25	25	54	49	16	09
45	170	134	254	247	34	36
46	214	177	323	319	29	27
47	233	200	297	286	53	28
48N	25	16	32	35	02	02
48P	04	08	12	10	01	00
48R	18	12	16	15	01	01
48S	00	00	02	04	01	00
48T	38	33	39	44	03	03
48U	66	63	72	76	04	00
48W	73	91	110	105	05	07
48X	30	24	43	38	02	01
48Y	61	51	109	84	10	11
49N	38	23	50	45	06	02
49S	127	110	143	130	09	12
49P	03	03	03	04	00	00
50	212	215	310	308	34	25
51	562	625	647	638	38	34
52	275	278	405	404	35	28
53	160	131	173	185	11	05
54N	40	34	33	37	00	00
54P	60	55	62	61	00	00
56-54R	67	65	97	83	03	01
56-55	17	24	51	50	04	04
56-56	80	67	96	104	05	01
56-66P	83	73	148	114	22	16
56-66R	29	29	40	39	04	05

Source: U. S. Census 1960.

MEANS OF TRANSPORTATION

(TO AND FROM WORK - 1960)

